# CORRELATION OF PERINATAL OUTCOME WITH MODE OF DELIVERY FOR SINGLETON BREECH PRESENTATION

*Dissertation submitted to*

**THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY**
**CHENNAI – 600 032**

*In partial fulfillment of the regulations*
*for the award of the degree of*

**M.D. DEGREE BRANCH - II**
**OBSTETRICS AND GYNAECOLOGY**


**INSTITUTE OF OBSTETRICS AND GYNAECOLOGY**

**MADRAS MEDICAL COLLEGE, CHENNAI.**

**THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY**

**CHENNAI, INDIA.**

**MARCH – 2008**

# CERTIFICATE

This is to certify that **Dr. R. ANITHA,** Postgraduate student (2005-2008) in the Department of Obstetrics and Gynaecology, Institute of Obstetrics and Gynaecology, Madras Medical College, Chennai has done this dissertation on **"CORRELATION OF PERINATAL OUTCOME WITH MODE OF DELIVERY FOR SINGLETON BREECH PRESENTATION"** under my guidance and supervision in partial fulfillment of the regulation laid down by the Tamilnadu Dr. M.G.R. Medical University, Chennai for MD (Obstetrics and Gynaecology) degree examination to be held on March 2008.

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# ACKNOWLEDGEMENT

I gratefully acknowledge and sincerely thank our Dean, **Prof. Dr. T.P.KALANIDHI, M.D.,** Madras Medical College, Chennai for his patronage.

I am extremely grateful to our beloved Director and Superintendent, **Prof. Dr. K.SARASWATHI, M.D., D.G.O.**, Institute of Obstetrics and Gynaecology, Madras Medical College, Chennai for her guidance and encouragement given in completing my work.

I thank all former directors of Institute Of Obstetrics and Gynaecology, Madras Medical College, Chennai, **Prof. Dr. V. MADHINI, M.D., D.G.O., Prof. Dr. CYNTHIA ALEXANDER, M.D., D.G.O.,** and **Prof. Dr. DHANALAKSHMI, M.D., D.G.O.,** for their support and encouragement.

I wish to express my deep sense of gratitude to **Prof. Dr. ANJALAKSHI CHANDRASEKAR, M.D., D.G.O., Ph.D.,** for her valuable guidance and supervision throughout my study.

I am also extremely thankful to all my Professors, Assistant professors, Medical and Para-medical staffs of Institute of Obstetrics and Gynecology, Chennai for their co-operation in conducting the study.

I will be ungrateful if I do not thank my patients who have extended their co-operation during the study.

I am immensely thankful to my family members for their moral support throughout the study.

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# AIMS AND OBJECTIVES

1. To determine the perinatal outcome of singleton breech presentation of different gestational age in relation to the mode of delivery.
2. To study the factors favouring the vaginal breech delivery.
3. To correlate perinatal outcome with gestational age, birth weight, APGAR score in neonates delivered by vaginal delivery.
4. To study the factors associated with breech presentation.

# INTRODUCTION

"When a thing ceases to be a subject of controversy,

it ceases to be a subject of interest"

William Hazlitt (1778-1830)

The intense obstetric controversy that breech presentation has generated still continues. Vaginal delivery of the breech was the norm until the late 1950s, when caesarean section was first recommended on the routine basis.

A steadily increasing number of obstetricians are following the advice of Wright who proposed in 1959 that all breech presentation should be delivered by caesarean section.

The recent publication of the Term Breech Trial by Hannah et al (2000) is likely to place planned vaginal breech delivery in the pages of history in the developed world.

In places where planned vaginal delivery is a common practice and when strict criteria are met before and during labour, planned vaginal delivery of singleton fetus in breech presentation at term remains a safe option that can be offered.

-AmJ. OBSTET GYNECOL 2006 AP: 194(4):1002

Undoubtedly the safe conduct of a trial of vaginal breech delivery is more likely if the individual obstetrician or institution has considerable experience in these cases. So the technique of atraumatic breech delivery is important ; as there will be situation where vaginal breech delivery will be unavoidable. In addition it is important to remember the technique of vaginal breech delivery has the same principles to apply to the delivery of breech through a uterine incision.

-Arul kumaran

# REVIEW OF LITERATURE

Breech Presentation was first detailed in ‘Moschinos” manuscript about 580 AD. Leonardo da vince in his famous note described a term fetus lying in utero in complete Breech Presentation.

The first description of possibility of spontaneous delivery in breech came from Ambroise Pare (1510-90). The first who emphasized the importance of gentle delivery of after-coming head was Jacques Guillemeace (1550-1613).

In 1668 Francious Maroceau described technique of delivery of Breech.

Lovset (1753) and Smellie (1951) modified the techniques. In 1955 Smellie applied forceps to after-coming head for the first time. Edmond Piper designed a special forceps in 18th century for the same purpose.

Sanger described classical caesarean section for the first time and first caesarean section for Breech was performed in Boston hospital in 1899.

Wright proposed in 1959 that all breech presentation should be delivered by caesarean section.

A critical review of literature (Cheney and Hannah 1993) in 1993 set the Stage for a Canadian multicentre Term Breech Trial (Hannah et al 2000).The trial was discontinued prematurely on April 2000 as the difference in the rate of primary outcome (perinatal mortality and morbidity) between the two groups was significant.

Perinatal mortality, neonatal mortality or serious neonatal morbiditywere significantly lower for planned caesarean section group than for the planned vaginal birth group ( 1.6% vs 5% : relative risk 0.33, 95% CI 0.19-0.56; P<0.0001).

A sub analysis separating the results from centres with high perinatal mortality (>20 per 1000) from the centres with lower perinatal mortality (<20 per 1000) suggested that the benefits of a caesarean section were less significant in countries with high perinatal mortality.

On the basis of this international trial, the ACOG(2001) has concluded that except in advanced labour, and ‘imminent delivery’ which are not otherwise defined, women with persistent singleton breech presentation at term should undergo planned caesarean delivery.

But still in some situation vaginal breech delivery is unavoidable.

1. Women may choose to deliver vaginally.
2. Caesarean section is planned but labour occurs too quickly. Nearly 10% of the women who were planned for a caesarean section in the term breech trial delivered vaginally.
3. Labour and delivery may occur at a site where facilities for caesarean section are not available.
4. In correct diagnosis of the presenting part. (frank breech may be mistaken for a cephalic presentation until the second stage)
5. Delivery of the second twin with breech presentation.

In places where planned vaginal delivery is a common practice and when strict criteria are met before and during labour planned vaginal delivery of singleton fetus in breech presentation at term remains a safe option that can be offered.

-AmJ. OBSTET GYNECOL 2006 AP:194(4):1002.

**Pre-term breech**

In addition to the complications of prematurity the preterm breech is at risk of the following complications:

-entrapment of fetal head in an incompletely dilated cervix

-cord prolapse

-hypoxia

-intraventricular hemorrhage

A caesarean section will probably reduce the trauma but is unlikely to eliminate it. At present most obstetricians will favour a caesarean delivery of uncomplicated preterm breech.

Controlled prospective studies have shown that the outcome of breech foetuses weighing more than 1500 gm was not dependant on the mode of delivery. (GoldenBerg and Nelson 1984; Nisell et al 1981; Brown et al 1994; Penn etal 1996;)

A review from the Cochrane database by Grant does not justify a policy of elective caesarean section for preterm breech (Grant 2000).

In the absence of good evidence that a preterm breech to be delivered by caesarean section, a decision about the mode of delivery should be made after disscusion with the woman, her partner and the paediatrician ( Penn and Steer).

**Vaginal Delivery – For whom?**

1. An estimated foetal weight of 1.5 to 3.9 kg is probably appropriate. Clinical estimation of foetal weight is unreliable and even when Ultrasound is used, there is margin of error of +/- 15%.The error of estimated foetal weight (EFW) is greater in the breech than in vertex foetus.
2. Some author would exclude the nulliparous women with a breech from consideration of vaginal delivery, yet others consider the grand multiparous patient also at high risk.
3. The foetus should ideally be in frank or complete breech presentation (not a footling).
4. Undiagnosed breech in labour is at higher risk of complications than those that have been diagnosed prelabour and assessed for suitability for trail vaginal delivery.

**Recommendations for Caesarean delivery**

Caesarean delivery is commonly but not exclusively used in the following circumstances

1) a large fetus.
2) any degree of contraction of the pelvis.
3) a hyper-extended head.
4) when delivery is indicated in the absence of spontaneous labour (Some use oxytocin augmentation).
5) uterine dysfunction (Some use oxytocin augmentation).
6) Incomplete or footling breech presentation.
7) Severe foetal growth restriction.
8) An apparently healthy and viable preterm foetuses with the mother in either active labour or in whom delivery is indicated.
9) Previous perinatal death or children suffering from birth trauma.
10) A request for sterilisation.
11) Lack of experienced obstetrician.

## EXTERNAL CEPHALIC VERSION (ECV)

The publication of term breech trial in 2000 gave fresh impetus to the already established trend to deliver all term breeches by caesarean section.

External cephalic version remains the only mean of reducing the caesarean section rate for breech presentation and RCOG (1999) currently recommends that all women of uncomplicated breech at term be offered external cephalic version.

Hoefmayer advised delay of ECV to after 37 weeks, so that if a complication occurs termination can be done immediately. In good selection of cases the reported success rate is 40 to 50 %. (Bewley et al 1993: Wallace et al 1984) and ultimate vaginal delivery rate of 40%.

According to ACOG (2000) success rate of ECV is 60%.

Tocolysis is effective both when used routinely and selectively (RCOG 2001: Robertson et al 1987).

Success rates increase with non-frank breech, normal amniotic fluid volume and multiparity.

Some authors like Newman et al (1993) have devised External cephalic version scoring systems, which predict the ECV being successful (Parameters include parity, dilatation of cervix, estimated foetal weight, placenta position, station of Breech).

Although External cephalic version is generally safe there are several contra-indications like multiple pregnancy, placenta previa ruptured membranes or concerns regarding foetal condition. Finally External cephalic version can cause some maternal discomfort and this may affect maternal acceptance and success rates.

Although non-medical interventions (postural techniques) to improve spontaneous version rates have been described. There is currently insufficient evidence to recommend this.

(Hoefmayer, Kulier 2002).

## PERINATAL MORTALITY AND MORBIDITY

Perinatal mortality and morbidity are estimated to be three times that of comparable infants with vertex presentation (Kuppila 1975).

Breech Presentation is commonly associated with certain adverse maternal and fetal factors that inherently give rise to increased perinatal morbidity and mortality. Hypoxia and trauma are the two principal factors contributing to increased perinatal morbidity and mortality and their effects depend on the gestational age.

Hannah et al Term Breech trial (2000) was halted before the planned total had been recruited, because perinatal mortality, neonatal morbidity were significantly lower for the planned caesarean section group than for the planned vaginal birth group.

(Perinatal Mortality for vaginal delivery was 13% / caesarean delivery was 3%. Neonatal morbidity for vaginal delivery was 3.8% / caesarean delivery was 1.4%).

In countries with a low perinatal morbidity and mortality rate (PNMMR) (<=20 in 1000 birth) the risk from planned caesarean compared with planned vaginal birth was 0.4% versus 5.7 % whereas the rates in countries with a high perinatal morbidity and mortality rate (PNMMR) (>20 in 1000 births) were 2.9% versus 4.4%.

In areas with high perinatal morbidity and mortality rate (PNMMR) as many as 39 caesarean sections would need to be done to avoid one dead or compromised baby, whereas in countries with low perinatal morbidity and mortality rate (PNMMR) the number of additional caesarean sections required may be as low as seven.

The preterm breech faces considerable problems during delivery and caesarean section does not always improve the perinatal outcome. A caesarean section will probably reduce the trauma but is unlikely to eliminate it. The neonatal outcome is largely dependant on the gestational age. At present most obstetricians will favour a caesarean delivery for uncomplicated preterm breech.

The exceedingly poor perinatal outcomes of very low birth weight (VLBW) breech infants are mainly related to antenatal deaths (22%) extreme low birth weight (44%) congenital anomalies and preterm labour, not to the breech presentation.

The route of delivery did not significantly influence outcome among complete and frank attitudes. Abdominal delivery may offer some benefit for footling.

Prematurity is the primary cause of death of very low birth weight (VLBW) breech infants.

– AmJ. OBSTET GYNECOL 1994:171:35-42.

Vaginal delivery still carries the risk of cord prolapse, extended arms as well as difficult delivery of head. The risk may be approximately 1 to 2%. Therefore obstetric expertise should be maintained for dealing with breech presentation.

## Mangement Of Vaginal Breech Delivery

Breech score of Zatuchini and Andros

At the time of admittance to the labour ward of the patient with breech presentation, a decision must be made whether a trial of labor is indicated or whether elective cesarean section is to be performed. The breech score is a numerical summary of several important parameters. While this index does not include all the factors which must be taken into consideration, while it is not the final word, and although it is no substitute for clinical judgment, it is a value piece of information and is helpful in evaluating the situation.

| | 0 Point | 1 Point | 2 Points |
|---|---|---|---|
| **Parity** | **Primigravida** | **Multipara** | |
| **Gestational age** | **39 weeks or more** | **38 weeks** | **37 weeks or less** |
| **Estimated fetal weight** | **>8 lb >3600g** | **7 to 8 lb 3176-3630g** | **<7 lb <3176 g** |
| **Previous breech<2500g** | **None** | **1** | **2 or more** |
| **Cervical dilation on admission by vaginal examination** | **2 cm or less** | **3 cm** | **4 cm or more** |
| **Station on admission** | **-3 or higher** | **-2** | **-1 or lower** |

There is statistical evidence to the effect that scores of 3 or less are associated with a high incidence of foetal morbidity, that prolonged labor is frequent, and that the rate of caesarean section is evaluated.

Thus, low scores are ominous and of great prognostic value. High scores, on the other hand, are less significant, are no guarantee of successful delivery, and are not a reason for complacency. It is suggested that a score of 3 or less is an indication for caesarean section.

**Trial of Labour**

The criteria for consideration of vaginal delivery are:

1. Frank breech.
2. Gestational age of 36 to 42 weeks.
3. Estimated foetal weight between 2500 and 3800 g.
4. Foetal bi-parietal diameter of less than 9.5 cm measured by ultra-sonography.
5. Flexed foetal head.
6. Adequate maternal pelvis, determined by x-ray pelvimetry.
7. No maternal or foetal indication for caesarean section.
8. Breech score of 4 or more.

**Conditions**. The trial of labor is carried on under the following conditions, with the understanding that any deviation from the normal is an indication for cesarean section.

1. The fetal heart rate is monitored continuously.
2. The progress of labor is observed meticulously.
3. Progressive cervical dilation must take place.
4. Adequate descent of the breech must occur.
5. No heroic vaginal procedures are performed.
6. When progress is slow there is a strong probability that the baby is large, and cesarean section should be performed.
7. The use of oxytocin in association with breech presentation is a controversial subject. Labor has been induced with success in cases of premature rupture of the membranes where the criteria for vaginal delivery have been met. Some obstetricians believe that augmentation of labor by infusion of oxytocin is permissible, even indicated, for prolonged latent of active phase cervical dilation. However, the association of dysfunctional labor and breech presentation is often an ominous sign suggesting disproportion, and stimulation by oxytocin may be dangerous. In such cases cesarean section is the preferable treatment.
8. The patient must be prepared and ready for cesarean section.

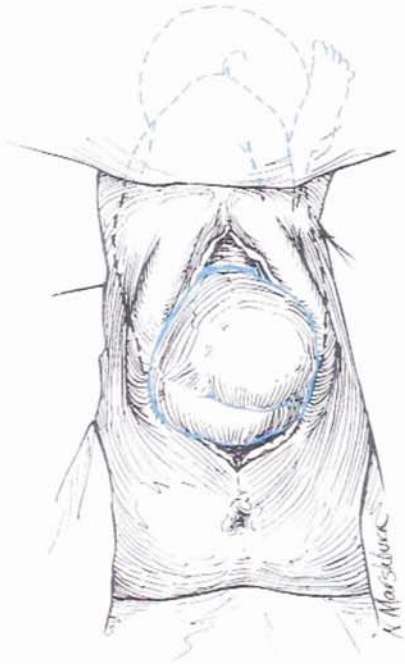
**Management of Labour and Delivery**

There are three methods of vaginal breech delivery.

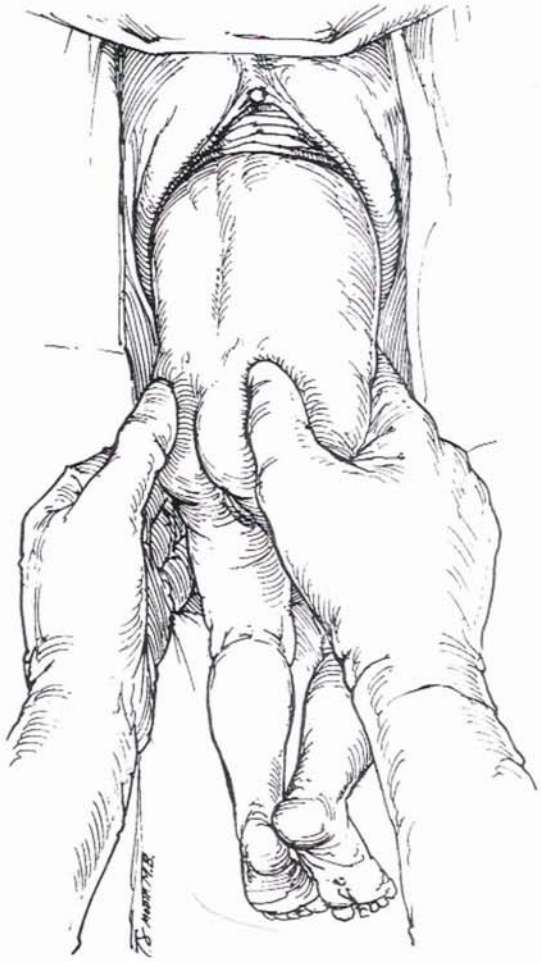
1. Spontaneous breech delivery
2. Partial breech extraction
3. Total breech extraction

- With good uterine contraction and a liberal episiotomy, the frank breech should ideally be allowed to deliver without assistance to atleast the level of umbilicus.
- The baby's body should be covered with the sterile towel to prevent premature inspiratory attempts.
- Gentle downward rotational traction is accomplished until scapulae are clearly visible.
- Lovset's manoeuvre is tried if there is difficulty in delivering the arms.
- In case of nuchal arm, reduction of arm being accomplished by rotating the foetus through half a circle counter-clockwise so that friction exerted by the birth canal will draw the elbow toward the face.
- After both the arms are delivered, gentle steady traction is maintained till the occiput is seen under the pubic symphysis.

- With good supra pubic pressure to maintain flexion of head, head is delivered by Marshall Burn's technique.
- If there is difficulty in delivering the head Mauriceau- Smellie Viet method is used. It is emphasized that with this manoeuvre, the operator uses both hands simultaneously and in tandem to exert continuous downward gentle traction simultaneously on the foetal neck and on maxilla.
- If there is failure of the foetal trunk to rotate anteriorly, delivery of after-coming head is accomplished by modified Prague manoeuvre.
- Alternatively after coming head is delivered by Piper's forceps.
- For preterm fetus, with incompletely dilated cervix, Duhrssen incisions may be life saving.



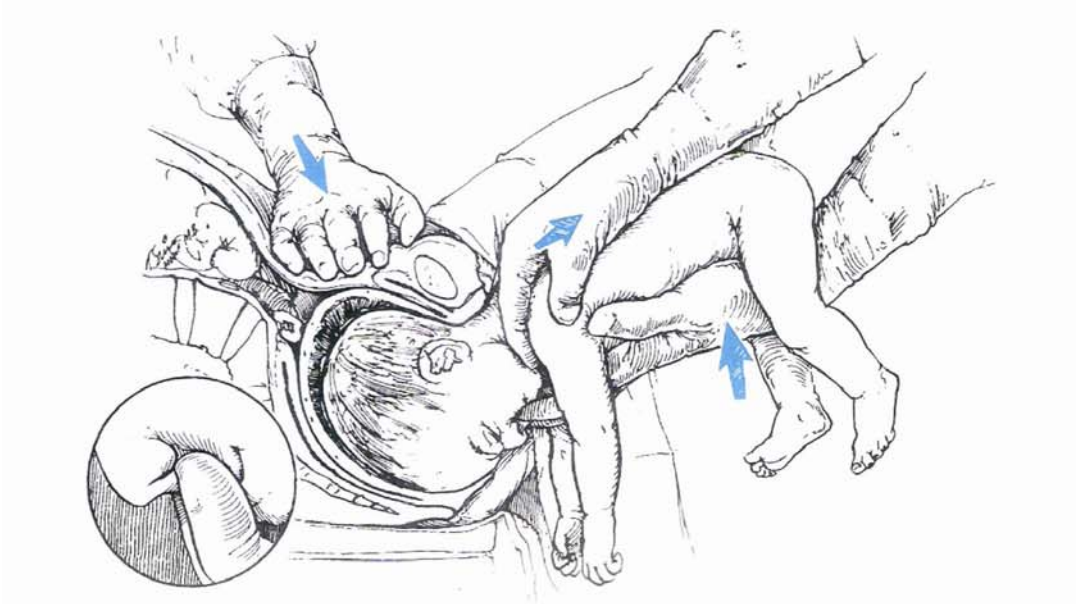
**The Posterior hip of the frank breech is delivering over the perineum**



Delivery of the body. The hands are applied, but not above the pelvic girdle. Gentle downward rotational traction is accomplished until the scapulas are clearly visible

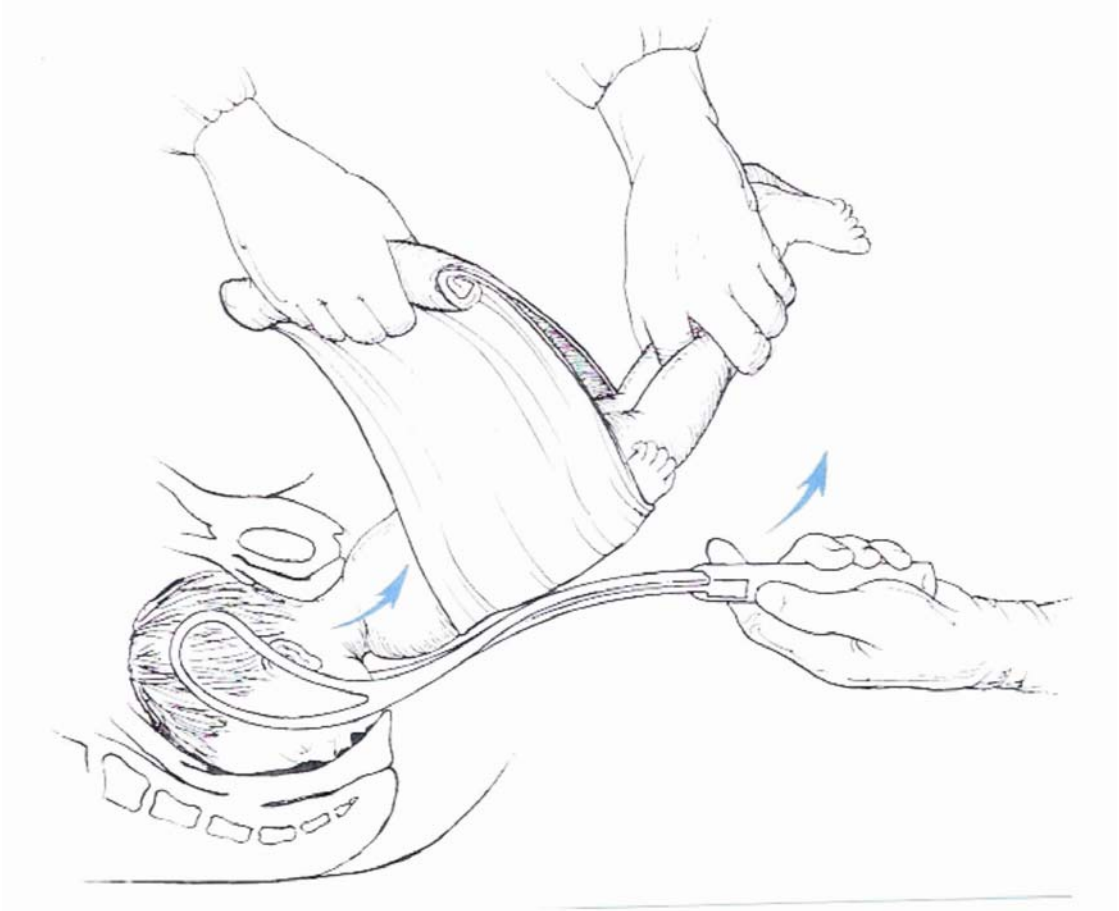
**Clockwise rotation of the fetal pelvis 90 degrees brings the sacrum from anterior to left sacrum transverse. Simultaneously, the application of gentle downward traction effects delivery of the scapula**

**Counterclockwise rotation from sacrum anterior to right sacrum transverse along with gentle downward traction effects delivery of the right scapula**



**Delivery of the aftercoming head using the Mauriceau maneuver**


**Delivery of the aftercoming head using the modified Prague maneuver necessitated by failure of the fetal trunk to rotate anteriorly**



**Piper forceps for delivery of the aftercoming head**

# MATERIALS AND METHODS

This study was conducted at Institute of obstetrics and gynaecology, Madras Medical College, Chennai, from Aug 2006 to July 2007. 460 cases of singleton breech presentation confirmed by clinical examination and ultrasound were selected for this study.

Exclusion criteria

1. Multiple gestation
2. Intrauterine death
3. Congenital anomaly

Name, age, unit, registration number and address of the patients were noted. Detailed obstetric history was elicited. Details of the present pregnancy indicated the date of last menstrual period. Details of scan reports, clinical examination finding if available were scrutinized. The time of admission was noted down. In this study patients who got admitted in active phase of labour were allowed for vaginal breech delivery.

A per abdomen examination was done to assess the presentation, and position of the fetus. Estimated foetal weight was calculated.

Per-vaginal examination was done to confirm the presentation, assess the pelvis, rule out gross foeto-pelvic disproportion and assess the Bishop's score.

USG was done in all cases to confirm the presentation, type of breech, position of placenta, liquor status, gestational age, hyperextension of neck and to rule out anomaly.

In those admitted in labour ward the presumptive mode of delivery either vaginal / abdominal route was decided based upon the obstetrical history, parity, type of breech, estimated foetal weight, pelvis assessment , progress of labour, foetal condition in-utero and associated maternal complication. Labour was either spontaneous or induced.

In this study 3 cases were induced with Prostaglandin E2 gel.

1. A third gravida term baby with mesenteric cyst was delivered vaginally whose birth weight was 3 kg.
2. A preterm breech with severe pre-ecclampsia was delivered vaginally with good APGAR and good perinatal outcome
3. A preterm breech with severe pre-ecclampsia was delivered vaginally and the outcome was still birth.

Emergency caesarean was done for cases of previous lower segment caesarean section (LSCS), foeto-pelvic disproportion, placentaprevia,abruptionplacenta,foetal distress, and oligohydramnios.

In all cases lower segment caesarean section was done Perinatal death occurred in 29 cases. The causes of perinatal mortality were pre-maturity, intraventricular hemorrhage, Preterm

Premature rupture of membrane (PPROM); birth asphyxia, meconium aspiration.

Perinatal morbidity like poor APGAR scores, hypoxic ischemic encephalopathy, neonatal hyperbilirubinemia and prolonged NICU admission more than one week were noted.

Factors associated with breech like uterine anomaly, foetal anomaly uterine fibroid, placenta previa, oligo & polyhydramnios were studied.

The incidence of recurrent breech in multigravida was studied.

# RESULTS AND ANALYSIS

## Incidence of Breech Presentation

| Total number of deliveries | Total number of Breech | Incidence |
|---|---|---|
| 17352 | 460 | 2.65% |

In my study among the total cases of singleton breech presentation, anomalous fetuses and intrauterine death were excluded.

19 cases of foetal anomaly were found that accounts for 3.8% of cases.

The total number of intrauterine death was 18 cases which accounts for 3.6% of cases.

**Perinatal outcome in relation to mode of delivery**

| Mode of delivery | cases | % | Perinatal mortality | % | Morbidity | % |
|---|---|---|---|---|---|---|
| Vaginal delivery | 120 | 26 | 23 | 19.7 | 13 | 10.8 |
| Caesarean section | 340 | 74 | 1 | 0.3 | 0 | 0 |

P value=0.01

Among the vaginal breech deliveries assisted breech delivery was the mode of delivery in all cases studied except one which was delivered by breech extraction. Breech extraction was done under IV sedation for IUD breech who had previous 2 LSCS / Diabetes / cellulitis of lower limb.

-VBAC was conducted in one case (who was admitted well in labour) alive /girl/2.6 kg.

Of those delivered by caesarean section 13.1% elective deliveries mostly done for primi-breech or previous lower section caesarean section (LSCS) with breech.

My study shows that perinatal mortality and morbidity is significantly increased in the vaginal delivery group (P value=0.01).

**Gravidity**

| Gravidity | Number of cases | vaginal delivery | | | | Caesarean section | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Cases | % | Perinatal mortality | % | Cases | % | Perinatal mortality | % |
| Primigravida | 259 | 51 | 19.7 | 15 | 29.4 | 208 | 45.2 | 0 | 0 |
| multigravida | 201 | 69 | 34.3 | 8 | 11.6 | 132 | 28.7 | 1 | 0.8 |

P value=0.02

In primi gravida the incidence of vaginal delivery was 19.7 % whereas in multi gravida the incidence was 34.3%.This shows that parity is a significant factor influencing the mode of delivery.

Among the primi gravida who delivered vaginally 60% were preterm deliveries which accounted for a high perinatal mortality.

The difference in perinatal mortality among primi gravida is due to preterm deliveries.

**Type of Breech**

| Total cases | Type of breech | Vaginal | | | | Caesarean section | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Cases | % | Perinatal mortality | % | Cases | % | Perinatal mortality | % |
| 382 | Frank | 116 | 30.3 | 22 | 19 | 266 | 69.6 | 1 | 0.38 |
| 64 | Complete | 2 | 3.13 | 0 | 0 | 62 | 96.9 | 0 | 0 |
| 13 | Incomplete | 2 | 15.4 | 1 | 50 | 11 | 84.6 | 0 | 0 |

P value=0.15

This table shows that the type of breech was significant in affecting the mode of delivery (P Value=0.15). In frank Breech the incidence of vaginal delivery was highest - 30.3% where as in non-frank breech the incidence was 5%.

Type of breech is a significant factor affecting the mode of delivery.

**Perinatal outcome in relation to gestational age**

| Gestational age (weeks) | Total Cases | Vaginal | | | | Caesarean section | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Cases | % | Perinatal mortality | % | Cases | % | Perinatal mortality | % |
| 28-32 | 10 | 10 | 100 | 8 | 80 | 0 | 0 | 0 | 0 |
| 33-34 | 27 | 26 | 96.3 | 8 | 30.8 | 1 | 3.7 | 0 | 0 |
| 35-37 | 43 | 20 | 46.5 | 3 | 15 | 23 | 53.6 | 0 | 0 |
| >37 | 380 | 64 | 16.8 | 4 | 6.3 | 316 | 83.1 | 1 | 0.32 |

P value=0.002

In infants born before 32 weeks of gestation all were allowed for vaginal delivery and the perinatal mortality was highest in this group (80% of perinatal mortality).In 33 to 34 weeks gestation the vaginal delivery rate was 96.3%. In this group the perinatal mortality was high 30.8%.In this group caesarean section was done for one case the indication being Elderly Primi/Breech with oligohydramnios alive boy 1.5 kg with good perinatal outcome.

In the gestational age group of 35 to 37 weeks the perinatal mortality rate of vaginally delivered neonates was 15% whereas the perinatal mortality in caesarean delivery was nil.

In the gestational age group of more than 37 weeks, the perinatal mortality of vaginally delivered neonates was 6.3% whereas the perinatal mortality in caesarean delivery was 0.32%

In all the gestational age groups, caesarean delivery scores over vaginal delivery with a better perinatal outcome.

This shows that gestational age is a significant factor deciding the perinatal outcome (P Value=0.002).

**Perinatal outcome in relation to Birth Weight**

| Birth weight (Kg) | Total cases | Vaginal delivery | | | | Caesarean section | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Cases | % | Perinatal mortality | % | Cases | % | Perinatal mortality | % |
| 1-1.4 | 24 | 24 | 100 | 14 | 58.3 | 0 | 0 | 0 | 0 |
| 1.5-1.9 | 40 | 28 | 70 | 6 | 21.4 | 12 | 30 | 0 | 0 |
| 2-2.4 | 92 | 35 | 38 | 3 | 8.6 | 57 | 62 | 1 | 1.75 |
| 2.5-2.9 | 184 | 25 | 13.6 | 0 | 0 | 159 | 86.4 | 0 | 0 |
| 3-3.4 | 104 | 7 | 6.7 | 0 | 0 | 91 | 93.3 | 0 | 0 |
| 3.5-3.9 | 22 | 1 | 4.6 | 0 | 0 | 21 | 95.5 | 0 | 0 |
| >3.9 | 2 | 0 | 0 | 0 | 0 | 2 | 100 | 0 | 0 |

P value=0.001

The perinatal mortality was highest in birth weight range of 1 to 1.4 kg. In this group all had vaginal breech deliveries.

In cases with birth weight more than 2 kg, the incidence of assisted breech delivery was 16.5% and the perinatal mortality was 4.4% which is comparable to the perinatal mortality in non breech presentation.

This table shows that birth weight is a significant factor in deciding the perinatal mortality ( P value=0.001).

**Admission delivery interval influences the mode of delivery**

| Admission delivery interval | Total cases | Vaginal delivery | | | | Caesarean section | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Cases | % | Perinatal mortality | % | Cases | % | Perinatal mortality | % |
| Active phase | 207 | 103 | 49.8 | 12 | 11.7 | 104 | 50.3 | 1 | 0.96 |
| Latent phase | 213 | 17 | 6.7 | 11 | 64.7 | 236 | 93.2 | 0 | - |

Because of rise in popularity of elective caesarean section for breech presentation, increasing vaginal breech delivery was being performed only when the women presented in advanced labour.

Those who were admitted in active phase of labour 49.8% underwent vaginal breech delivery.

Admission delivery interval is a significant factor influencing the mode of delivery.

**Perinatal Outcome**

| | Cases | Percentage % |
|---|---|---|
| Still Birth | 8 | 1.74 |
| Early Neonatal Death | 14 | 3.04 |
| Increased perinatal Morbidity | 13 | 2.8 |
| No adverse neonatal outcome | 425 | 92.4 |

In this study the perinatal mortality in singleton breech presentation was 9.1% (which include the intrauterine death also).

2.8% of cases had increased perinatal morbidity characterized by low APGAR scores, hypoxic ischemic encephalopathy (HIE) Stage 2, prolonged admission in NICU for reasons like sepsis and birth asphyxia.

**Perinatal outcome**

| | Vaginal delivery | | Caesarean section | |
|---|---|---|---|---|
| | Cases | % | Cases | % |
| Still Birth | 8 | 6.6 | 0 | 0 |
| Birth Asphyxia | 8 | 6.6 | 0 | 0 |
| Intraventricular hemorrhage | 1 | 0.8 | 0 | 0 |
| Preterm Premature rupture of membrane (PPROM) Sepsis | 2 | 1.6 | 0 | 0 |
| Hyaline membrane disease (HMD) | 1 | 0.8 | 0 | 0 |
| Maternal complications | 1 | 0.8 | 1 | 0.29 |

The most common cause of perinatal mortality is birth asphyxia.

The perinatal mortality was mostly associated with vaginal delivery. Except for a post dated pregnancy with oligohydramnios and foetal distress (birth weight 2.1kg-1/10 1/10 4/10 ) there was no perinatal mortality among those delivered by caesarean section.

This table shows the mode of delivery is a significant factor in deciding the perinatal outcome.

**Causes of perinatal mortality**

| **Causes of perinatal mortality** | Cases | Percentage % |
|---|---|---|
| **Still Birth** | **8** | **33.33** |
| Intrapartum Asphyxia | 7 | 29.16 |
| Maternal complications | 1 | 4.16 |
| **Early Neonatal death** | | |
| Birth Asphyxia | 8 | 33.33 |
| Intraventricular hemorrhage | 1 | 4.16 |
| Preterm Premature rupture of membrane (PPROM) Sepsis | 2 | 8.33 |
| Hyaline membrane disease (HMD) | 1 | 4.16 |
| Maternal complications | 2 | 8.3 |

Among the perinatal mortality 33.3 % cases are still birth. The most common cause of perinatal mortality was birth asphyxia which accounts for 33.3%

Among the causes of perinatal mortality, prematurity accounted for 70.8% of deaths.

**Factors Associated with Breech Presentation**

| | Cases | Percentage % |
|---|---|---|
| Uterine anomaly | 19 | 4.13 |
| Fibroid | 4 | 0.87 |
| Placenta previa | 2 | 0.43 |
| Recurrent Breech | 8 | 1.74 |
| OligoHydramnios | 4 | 0.87 |
| Abruption | 3 | 0.65 |
| Cord prolapse | 2 | 0.43 |

**Uterine anomaly**

The incidence of uterine anomaly in my study was 4.1%. The anomalies encountered were unicornuate uterus, bicornuate, arcuate and septate uterus.

**Fibroid Uterus**

The incidence of fibroid with breech presentation was 0.86% One case was post-myomectomy with multiple fibroid for which LSCS was done.

**Abruptio Placenta**

In my study the incidence of abruptio placenta was 0.65%. For two cases LSCS was done with a good perinatal outcome and for the third one which was a preterm abruption, assisted breech delivery was conducted and resulted in adverse perinatal outcome.

**Cord Prolapse**

The incidence of cord prolapse was 0.43%. 2 cases of cord prolapse occurred in incomplete breech (footling/knee presentation) and LSCS was done with good outcome.

In a term/primi gravida/footling presentation presented with nonpulsatile cord prolapse at casualty, assisted breech delivery was conducted/ Fresh dead born baby weighing 3 kg.

**Induction of labour**

In my study labour was induced with prostaglandin E2 gel in three cases

1. In a multigravida, a term foetus with mesenteric cyst was delivered vaginally with birth weight of 3kg.
2. A preterm breech was induced for pre-ecclampsia - delivered vaginally with no adverse perinatal outcome
3. A preterm breech was induced for pre-ecclampsia the outcome being still birth

**congenital anomalies**

Incidence of congenital anomalies in this study is 3.8%

The following major anomalies are identified.

Neural tube defect - 9 _____ { encephalocele - 1
{ meningomyelocele- 3
{ Anencephaly - 2
{ Hydrocephalus - 3

Renal anomaly - 2

Multiple anomaly - 2

Prune Belly Syndrome - 1

Arthrogryposis

multiplex congenita - 1

Osteogenesis imperfecta - 1

Heart disease - 1

Ambiguous genitalia - 1

Single umbilical artery - 1

All anomalous babies were delivered by assisted breech delivery except two.

For an anencephalous foetus, emergency repeat LSCS was done. Indication being previous LSCS with threatened rupture.

For a foetus with Osteogenesis imperfecta LSCS was done. Baby expired after 2 days due to respiratory failure.

# DISCUSSION

Despite several works, breech infants still constitute a distinct high risk group for which specific guidelines for management must be established.

Prematurity, low birth weight, lethal congenital anomalies, birth asphyxia and trauma constitute the major causes of perinatal loss.

Proper selection of cases for vaginal delivery, proper skillful technique for breech delivery are the most important determinant without compromising the foeto-maternal well being and curtailing the percentage of cesarean for malpresentation.

## Incidence

In my study the incidence of Breech after excluding intrauterine death and major congenital anomalies was 2.65%.

"The incidence of breech presentation varies with gestational age being approximately 14% between 29 and 32 weeks and 2.2 to 3.7% at term giving the overall figure of 3% to 4%".

- Hicot et al 1992

-The annual rate of breech presentation at delivery was nearly 1,50,000 infants delivered at parkland hospital in the 10 year period ending in 2002 was 3.6 percent.

- Collea and associates quoted a 5% incidence of congenital anomalies in term breech fetuses two and a half times higher than in vertex presentation (2.8%)
- In my study the incidence of congenital anomalies was 3.8% in which central nervous system anomaly was the commonest. Central nervous system anomaly accounted for 47.3% of cases.

**Mode of delivery**

In my study the incidence of vaginal breech delivery was 26.1%. Assisted breech delivery was the mode of delivery in all cases studied except one which was delivered by breech extraction. Breech extraction was done under IV sedation for an IUD-Breech who had two previous LSCS/Diabetes with cellulitis of lower limbs.

Four cases were delivered by VBAC(Vaginal birth after caesarean)

1. One Patient who was admitted in labour ward who was well in labour VBAC(Vaginal birth after caesarean) was conducted/ alive / girl / 2.6 kg with good perinatal outcome.
2. A term anomalous (encephalocele) baby weighed 3 kg was delivered by VBAC.
3. two cases of Intrauterine death were delivered by VBAC (Vaginal birth after caesarean) / Birth Weight 2 kg and 2.4 kg respectively.

A study published in Am.J.obstet Gynecol 2006 Ap:194(4):100 shows the incidence of vaginal delivery is 31.2% of cases and caesarean delivery is 68.8% cases. In my study the incidence of vaginal delivery was 26% and caesarean delivery was 74%.

**Gravidity**

My study shows that in primigravida, the incidence of vaginal breech delivery was 19.7% whereas in multigravide the incidence was 34.3%.

Among the primigravida who delivered vaginally 60% were preterm deliveries which accounted for a high perinatal mortality and morbidity.

In multigravida who had vaginal breech delivery, the perinatal mortality rate was 2.89%.

A study conducted in National Maternity hospital Dublin (2004) says that vaginal breech delivery is still a safe option when a strict selection criteria like multigravida ,term, frank breech are adopted.

- Am.J.obstet Gynecol 2004mar;103(3);407-12

My study goes in favour of this. ( In multigravida who had vaginal breech delivery, the perinatal mortality rate was 2.89% which is comparable to the vertex counterpart.)

**Type of Breech**

In my study the incidence of frank breech is 83%, complete breech is 13.9%, Incomplete breech 2.8%.

Highest number of vaginal deliveries are in the frank breech group (30.3%)

So type of breech influences the mode of delivery. But it will not influence the perinatal mortality. (p value=0.15)

**Cord prolapse**

In my study the incidence of cord prolapse was 0.07%. All the cases of cord prolapse occurred in incomplete breech. The 3 cases are the following.

1) In a multigravida, 36 week gestation / footling presentation – casearian was done. Alive / boy / 1.7 kg / APGAR 5/10 & 7/10.
2) In a multigravida / term gestation / knee presentation with cord prolapse caesarean was done / alive / boy / 2.8 kg / APGAR 6/10 & 7/10
3) In a primi gravida with term gestation who presented as footling breech presentation with non-pulsatile cord prolapse at casualty-assisted breech delivery was conducted. The baby was dead with birth weight of 3 kg.

**Gestational age**

In my study the incidence of preterm breech is 17.39 %. Since the salvagability rate in our institute below 32 week gestation is not good all were delivered by assisted breech delivery and the perinatal mortality was highest in this group(80%).

Among the 27 cases in gestational age of 33 to 34 weeks, all were delivered by vaginal route except one case, who had caesarean section, indication being elderly primi/breech & oligohydramnios.

Among the 43 cases in the 35-37 week gestational age group, 46.5% had vaginal delivery and 53.6% had caesarean delivery. the perinatal mortality was 3% in vaginal delivery group and nil in caesarean group.

16.8% term infants had vaginal breech deliveries. In this group the perinatal mortality was 6.3% where as in caesarean delivery the perinatal mortality was 0.32%.

Gestation age is significant in deciding the perinatal outcome. (p value=0.002)

A preterm breech trial conducted in Jordan (1997) compared perinatal outcome of two groups – vaginal versus abdominal delivery. The study says that there no significant difference in intra partum death and early neonatal mortality between these two groups.
(16.6 vs 15.6%)

- Gynecol obstet 1997:43(4) 169-72.

But my study says that preterm (34 to 37 week gestation) infants born by abdominal delivery had a better prenatal outcome than the vaginal group.(3% vs 0%)

**Birth Weight**

The perinatal mortality rate was highest in birth weight range of 1 to 1.4 kg. In this group all patients had vaginal breech delivery. In infants with birth weight more than 2 kg the incidence of assisted breech delivery was 16.5% and the perinatal mortality was 4.4% which was comparable with the perinatal mortality in vertex presentation.

This shows that birth weight is a significant factor deciding the perinatal mortality. (p value – 0.001)

Lynn Brown et al 1993 stated there was no difference in the outcome for newborn weighing more than 1500 gm by route of delivery.

My study goes in favour of this stating that the perinatal mortality in vaginally delivered infants with birth weight >=2 kg is comparable with that of the vertex counterpart.

Another study published in Am.J.OBSTET GYNECOL 1994 concluded that route of delivery of infants weighing >= 1500 gm does not influence neonatal outcome.

- Am.J.OBSTET GYNECOL 1994: 171 : 28-34.

My study goes the same way as that the route of delivery did not significantly influence outcome among complete and frank attitude; Abdominal delivery may offer some benefit for footling.

-AmJ.OBSTET GYNECOL 1994;171 35-42.

**Admission delivery interval**

Admission delivery interval is a significant factor influencing the mode of delivery.

In my study those who were admitted in active phase of labour almost half of the patients (49.8%) had vaginal breech delivery.

Because of rise in popularity of elective caesarean section for breech presentation, increasing vaginal breech delivery was being performed only when the women presented in advanced labour.

Thus showing admission delivery interval is a significant factor influencing the mode of delivery.

**Perinatal outcome**

The perinatal mortality in singleton breech presentation is 9.1% which includes Antepartum intrauterine death (IUD) more than 28 weeks gestation, stillbirth and early neonatal death.

Apart from the mortality, morbidity like low APGAR scores, hypoxic ischemic encephalopathy (HIE) stage 2, prolonged admission in NICU were noted.

Among the perinatal mortality 33.3 cases are still birth.

The most common cause of mortality is Birth asphyxia which accounted for 33.3% of perinatal deaths.

Among the perinatal mortality prematurity contributes to 70.8%.

In my study 64 cases of term infants had vaginal breech delivery. In this group, the perinatal mortality rate was 4.4% which was comparable to the vertex counterpart.

The experience at MCH centre, Pakistan Institute of Medical Sciences says that after exclusion of congenital anomalies, greater recourse to caesarean section beyond 34 weeks seems to confer a survival advantage to the new born infant. In their study the perinatal mortality rate was 8.77%.

-J Pak Association 2002 oct:52(10):471-5.

For those infants >= 37 weeks gestation and birth weight >= 2 kg we can offer vaginal delivery because the perinatal mortality in this group was 4.4 % which is comparable with that of the vertex counterpart.

For gestational age between 35-37 weeks caesarean section offers a better perinatal outcome.

# SUMMARY

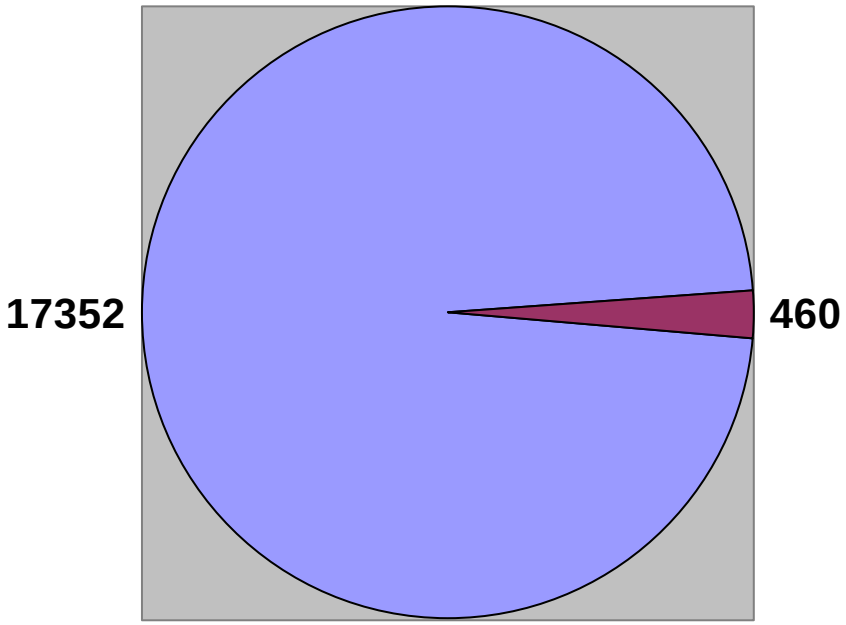
1. Incidence of breech presentation in our Institute during my study was 2.65%.
2. The incidence of vaginal breech delivery was 26.1%.
3. Perinatal mortality rate in vaginally delivered infants 19.7 %.
4. The mortality rate was significantly higher in vaginally delivered group. (p value= 0.01)
5. Gravidity is a significant factor affecting the perinatal outcome. (p value =0.02)
6. Frank breech presentation is a favourable factor for vaginal breech delivery.
7. Type of Breech influences the mode of delivery. But not the perinatal mortality. (p value=0.15)
8. The intrapartum complication like cord prolapse are higher in non frank breech.
9. For term infants the incidence of vaginal breech delivery is 16.8% and in this group the perinatal mortality was 6.3% which was comparable to the vertex presentation.
10. In infants with Birth weight >=2 kg incidence of vaginal breech delivery was 16.5% and perinatal mortality was 4.4% which is comparable to the Vertex presentation.

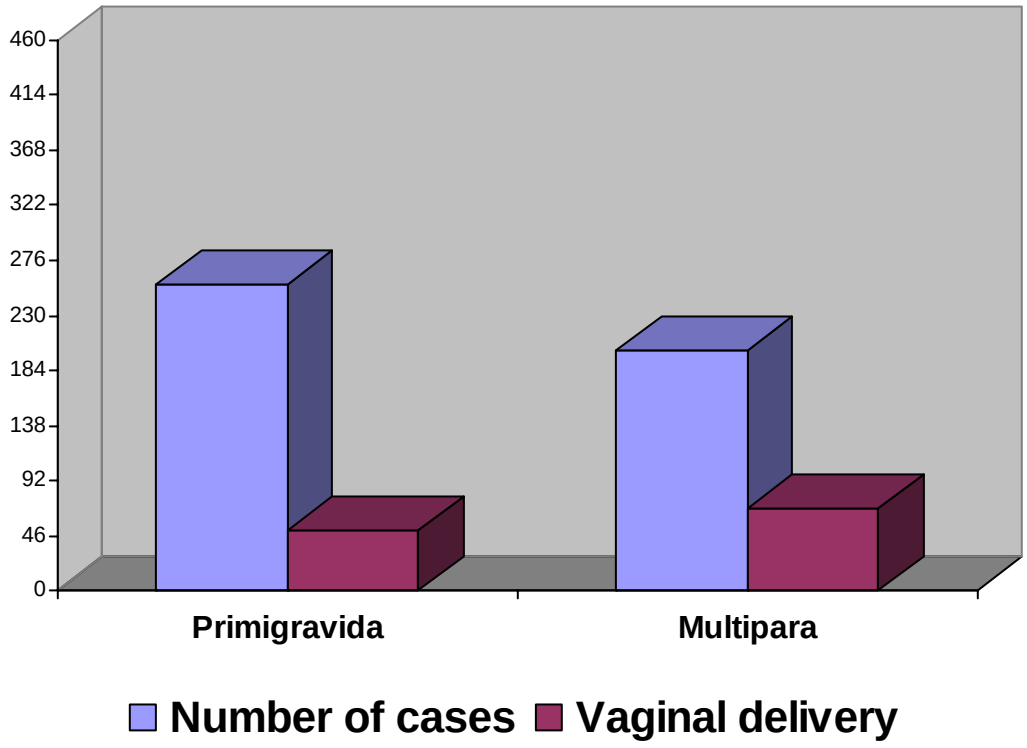
11. Birth weight is a significant factor deciding perinatal outcome (p value 0.001).
12. Patients admitted in active stage of labour (49.7%) had vaginal delivery.
13. The perinatal mortality rate in singleton breech presentation was 9.1%.
14. In 33.3% of cases birth asphyxia was the cause of death.
15. Prematurity accounts for 70.8% of perinatal mortality.

# CONCLUSION

- When strict selection criteria like multigravida, frank breech presentation, term gestation, estimated foetal weight more than or equal to 2 kg to 3 kg are met, planned vaginal delivery of singleton breech presentation remains a safe option that can be offered.

- In preterm breech with 35-37 weeks gestation, caesarean section offers a better perinatal outcome.


17352
460
Total number of deliveries
Total number of breech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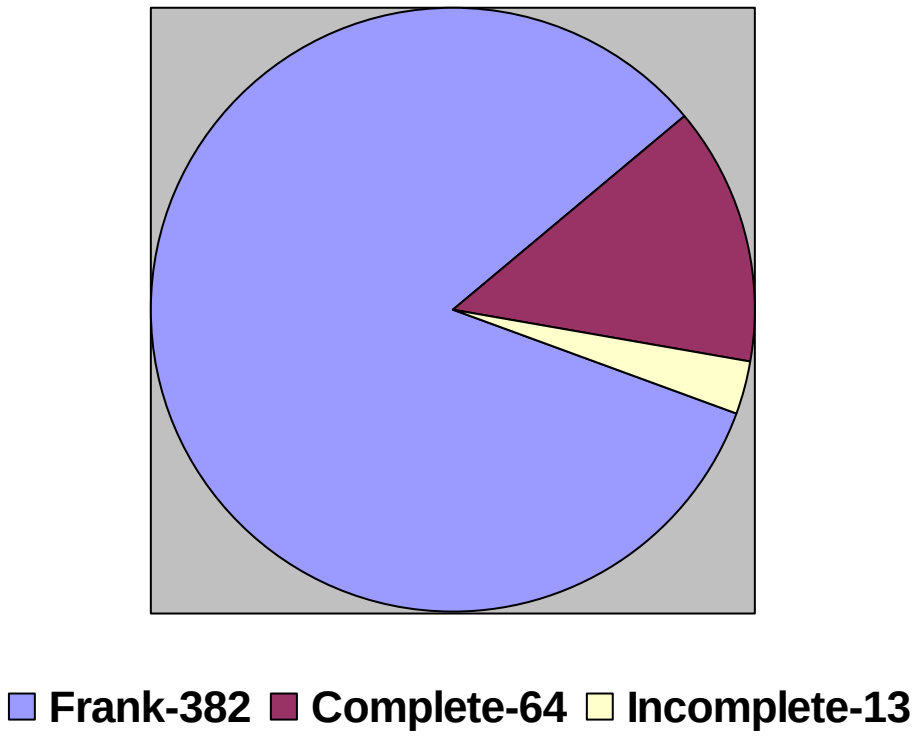
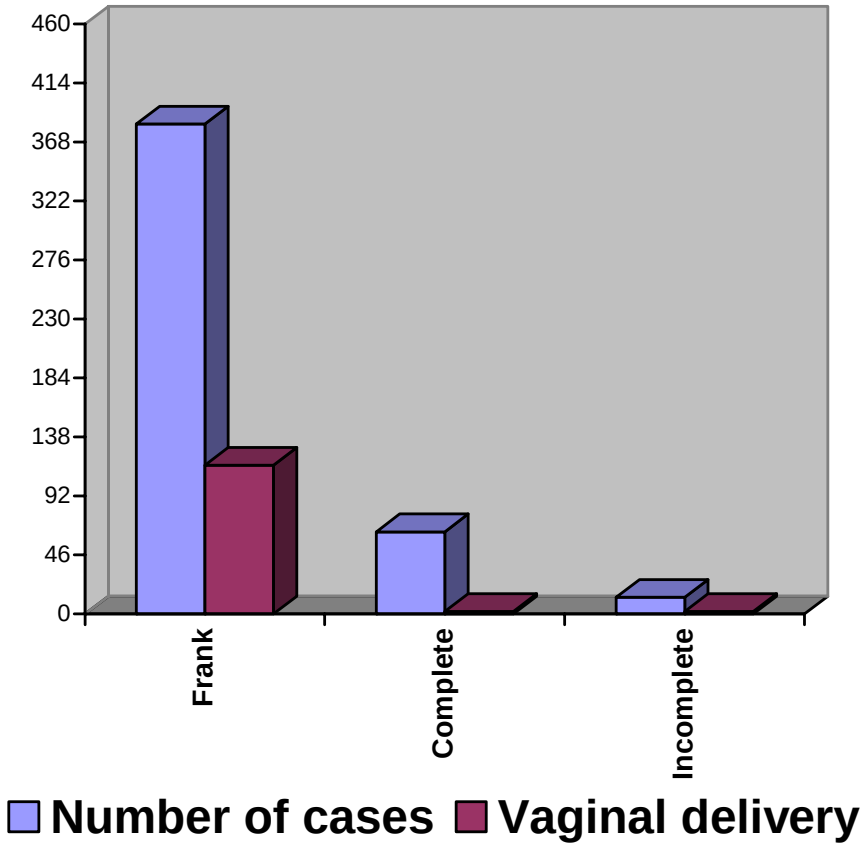
414
368
322
276
230
184
138
92
46
0
Primigravida
Multipara
Number of cases
Vaginal delivery


Frank-382
Complete-64
Incomplete-13


460
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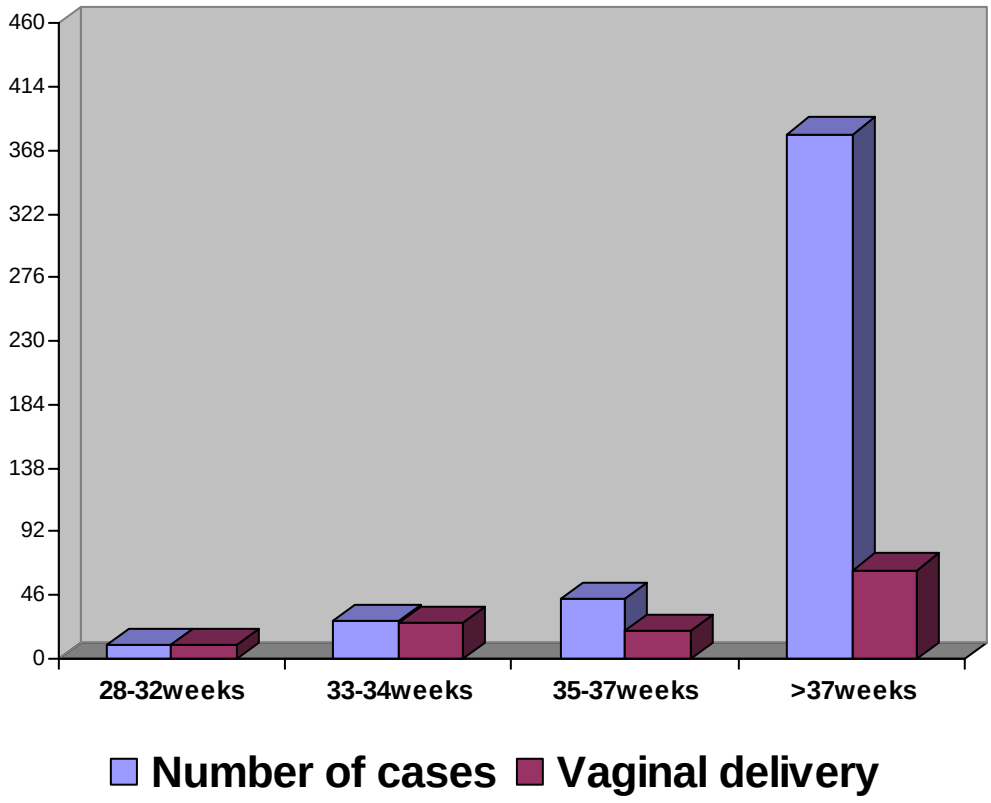
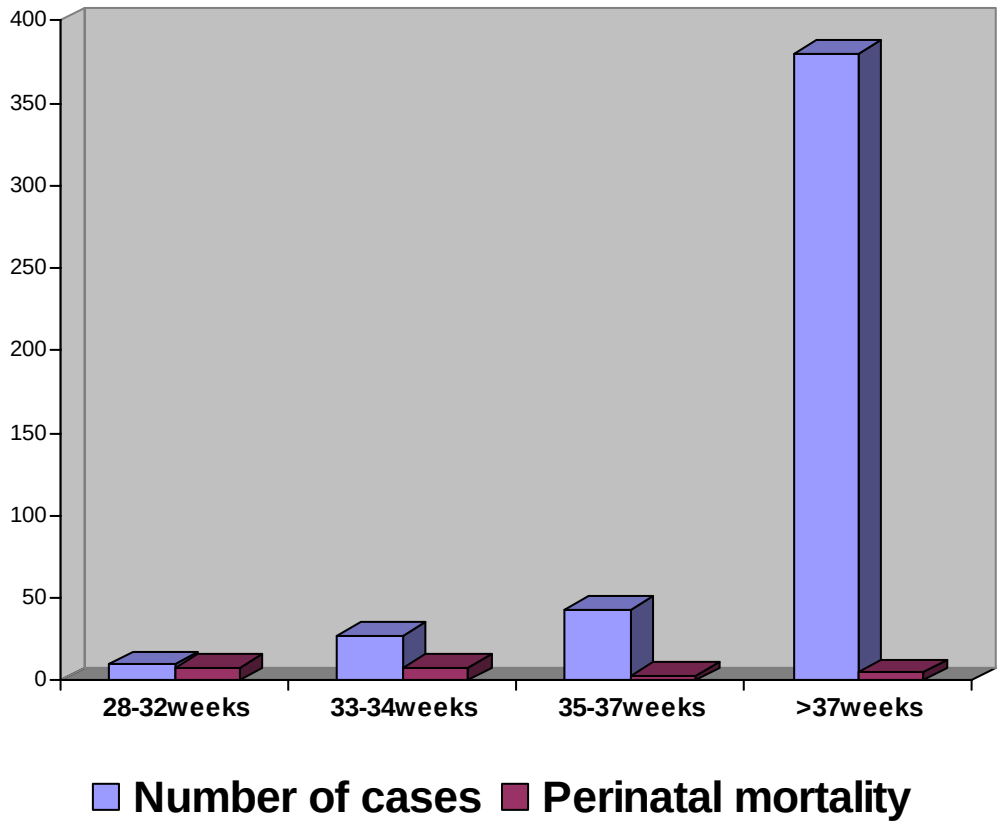
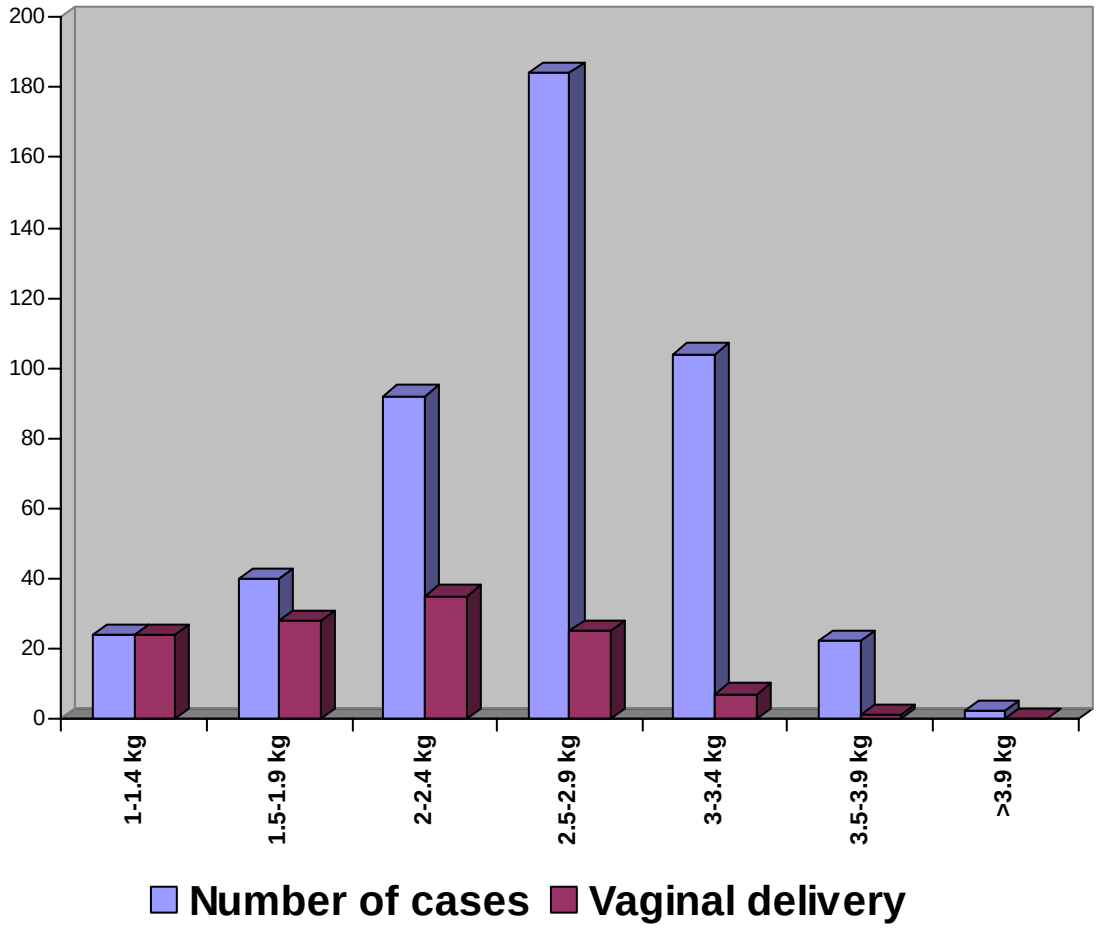
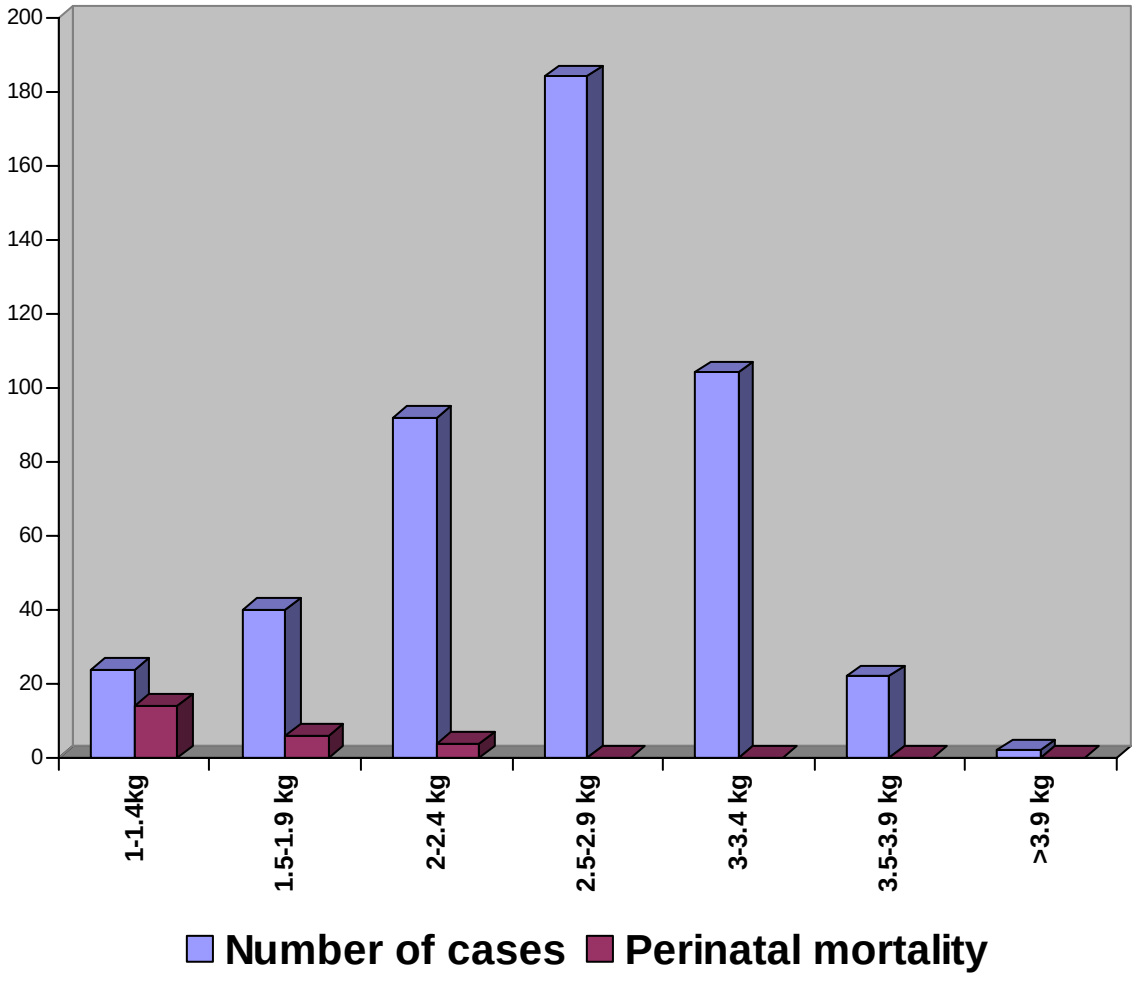
368
322
276
230
184
138
92
46
0
Frank
Complete
Incomplete
Number of cases
Vaginal delivery


460
414
368
322
276
230
184
138
92
46
0
28-32weeks
33-34weeks
35-37weeks
>37weeks
Number of cases
Vaginal delivery


400
350
300
250
200
150
100
50
0
28-32weeks
33-34weeks
35-37weeks
>37weeks
Number of cases
Perinatal mortality


200
180
160
140
120
100
80
60
40
20
0
1-1.4 kg
1.5-1.9 kg
2-2.4 kg
2.5-2.9 kg
3-3.4 kg
3.5-3.9 kg
>3.9 kg
Number of cases
Vaginal delivery


200
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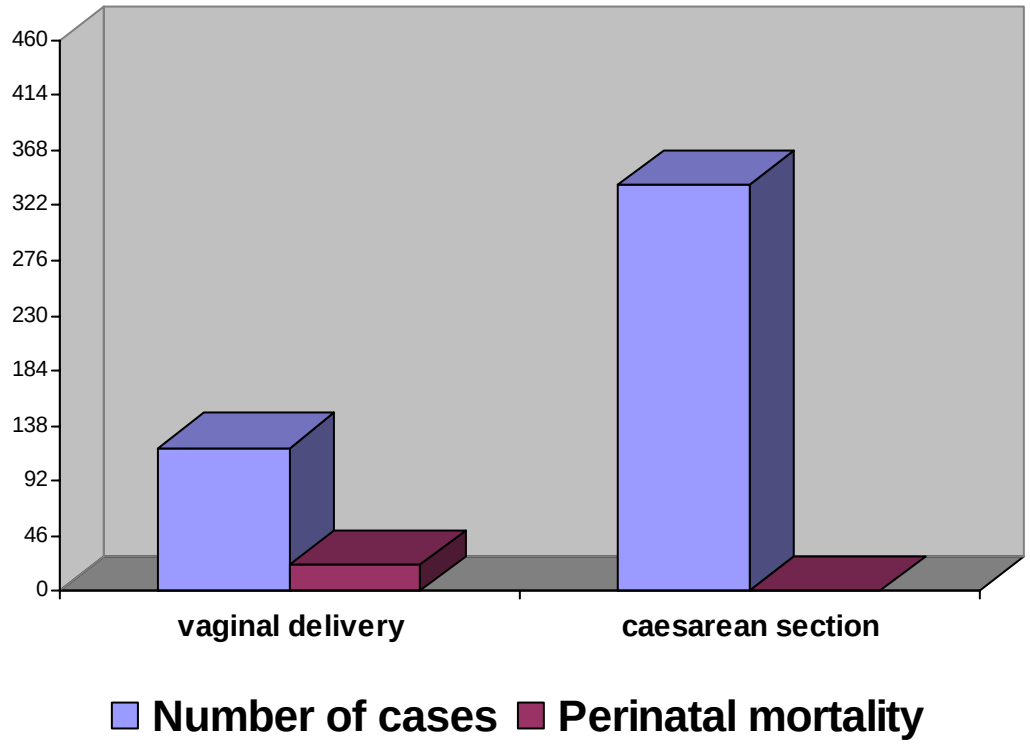
1-1.4kg
1.5-1.9 kg
2-2.4 kg
2.5-2.9 kg
3-3.4 kg
3.5-3.9 kg
>3.9 kg
Number of cases
Perinatal mortality


460
414
368
322
276
230
184
138
92
46
0
vaginal delivery
caesarean section
Number of cases
Perinatal mortality

# ABBREVIATIONS

| | | |
|---|---|---|
| P | - | Primi Gravida |
| M | - | Multi Gravida |
| E | - | Extended Breech |
| Fo | - | Footling Breech |
| Fl | - | Flexed Breech |
| Cs | - | Caesarean Section |
| Vag | - | Vaginal Delivery |
| B | - | Boy |
| G | - | Girl |
| HMD | - | Hyaline Membrane Disease |
| IVH | - | Intra Ventricular Haemorrhage |
| PPROM | - | Preterm Premature Rupture of Membranes |
| NNH | - | Neonatal Hyperbilirubinemia |
| NICU > 1 wk | - | Neonatal Intensive Care Unit Admission more than 1 week |
| PIH | - | Pregnancy Induced Hypertension |
| HIE | - | Hypoxic Ischemic Encephalopathy |
| IUGR | - | Intra Uterine Growth Restriction |

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**Correlation of fetal outcome with mode of delivery for singleton breech presentation**

# PROFORMA

Name:

Age:

Address:

IP NO:

Date Of Admission:

Socio economic status:

Obstetric formula

Date Of Delivery:
Date Of Discharge:

Menstrual H/O:

Education status:

Age at menarche

Last menstrual period:
Expected date of delivery

Menstrual History

H/O draining pv

Marital life

Obstetric History

Past History

H/O Hypertension

H/O Diabetes mellitus

H/O Bronchial asthma

H/O Tuberculosis

H/O Heart disease

H/O Renal Disease

H/O Epilepsy

H/O connective tissue disorders

Family H/O:

Personal H/O: smoking/alcoholism

Drug history:

General condition: Built:

Height: Weight:

Pallor: Clubbing:

Jaundice: Pedal edema

Cyanosis: lymphadenopathy

Vitals:

Temperature Respiratory rate

Pulse Rate Blood Pressure

CVS:

RS:

Thyroid Breast

Per abdomen:

Size of Uterus

Shape

Presenting part. Mobile/Fixed

Uterine anomaly

Single/Multiple

Per vaginum: Type of Breech
Station
membrane present/not

Cord prolapse / pulsatile / Non pulsatile

USG: Gestational age

Presentation

Type of Breech

Placental position

Neck hyper-extension /not

Liquor – Poly hydramnios

Anomaly

Mgt:

Admission Delivery Internal

Mode of Delivery:

Vaginal- spontaneous/Assisted Breech delivery/ breech extraction

Cesarean- Elective/Emergency

Type-LSCS/classical

Complications during delivery:

Cord Prolapse

Difficulty in delivering head

Extended arm

Baby: Sex

Weight

APGAR

Live born/dead born/asphyxiated /any anomaly

-Respiratory distress

Morbidity: -Poor APGAR (<7 in 5 min)

-HIE

-NNH

-NICU Admission >1 week

Complications associated with Breech:

-Uterine anomaly

-Recurrent Breech

-Placenta Previa

-Fibroid

-Abruption

| S No | IP No | Gravidity | Gestational Age | Admission Delivery Interval | Type of Breech | Other Complications | Mode of Delivery | Sex | Birth Weight | Apgar | Perinatal Mortality | Perinatal Morbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4321 | P | T | 3 | E | | CS | B | 2.9 | 6/10 8/10 | | |
| 2 | 8262 | M | T | _ | E | | Vag | B | 2.8 | 6/10 8/10 | | |
| 3 | 2417 | M | T | 2 | E | | CS | G | 3.5 | 7/10 8/10 | | |
| 4 | 2317 | P | T | 1 | E | | CS | B | 2.6 | 6/10 8/10 | | |
| 5 | 2814 | P | T | 1/2 | E | | CS | G | 2.8 | 7/10 8/10 | | |
| 6 | 8452 | M | T | 2 | Fl | | CS | G | 3.6 | 6/10 8/10 | | |
| 7 | 8768 | M | T | _ | Fl | | CS | G | 3.8 | 6/10 8/10 | | |
| 8 | 8377 | P | T | 4 | E | | CS | B | 3.6 | 7/10 8/10 | | |
| 9 | 8569 | M | T | _ | E | | CS | G | 2.8 | 6/10 8/10 | | |
| 10 | 8786 | P | T | _ | E | | CS | G | 3.6 | 6/10 8/10 | | |
| 11 | 8931 | M | T | 3 | E | | Vag | B | 2.4 | 7/10 8/10 | | |
| 12 | 8685 | P | T | 1/2 | E | | Vag | G | 2.7 | 6/10 8/10 | | |
| 13 | 2715 | P | T | _ | E | | CS | G | 2.4 | 6/10 8/10 | | |
| 14 | 8991 | M | 36 | 4 | E | | Vag | B | 2.5 | 3/10 4/10 4/10 | | NICU>1 wk |
| 15 | 9255 | P | T | _ | E | | CS | G | 2.8 | 6/10 8/10 | | |
| 16 | 2917 | M | 31 | 6 | E | | Vag | B | 1.25 | 7/10 8/10 | HMD | |
| 17 | 8958 | M | T | _ | E | | CS | B | 2.9 | 6/10 8/10 | | |
| 18 | 9435 | P | T | 1/2 | Fo | | Vag | B | 1.1 | 6/10 8/10 | Preterm IVH | |
| 19 | 7911 | P | T | _ | Fl | | CS | B | 2.9 | 7/10 8/10 | | |
| 20 | 9688 | P | T | _ | E | | CS | B | 3.4 | 6/10 8/10 | | |
| 21 | 9658 | P | 34 | 3 | E | | Vag | B | 1.3 | 6/10 8/10 | | NICU>1 wk Sepsis |
| 22 | 9721 | M | T | _ | E | | CS | G | 3.4 | 6/10 8/10 | | |
| 23 | 9795 | P | T | 4 | E | | Vag | B | 2.1 | 7/10 8/10 | | |
| 24 | 9564 | M | T | _ | E | | CS | G | 2.4 | 6/10 8/10 | | |
| 25 | 10093 | M | T | 1/2 | E | | VBAC | G | 2.6 | 7/10 8/10 | | |
| 26 | 9918 | P | T | _ | E | | CS | B | 2.3 | 6/10 8/10 | | |
| 27 | 10164 | P | T | _ | E | | CS | B | 2.3 | 6/10 8/10 | | |
| 28 | 10165 | P | T | _ | E | | CS | B | 2.8 | 7/10 8/10 | | |
| 29 | 12305 | M | T | _ | E | | CS | G | 2.7 | 6/10 8/10 | | |
| 30 | 12312 | M | T | _ | E | | CS | G | 2.8 | 6/10 8/10 | | |
| 31 | 12341 | P | T | 2 | E | PPROM | Vag | B | 1.7 | 7/10 8/10 | Preterm Sepsis | |
| 32 | 12431 | M | T | 4 | Fl | | CS | G | 2.8 | 6/10 8/10 | | |

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| 33 | 12342 | M | T | 5 | E | | Vag | G | 2.4 | 6/10 8/10 | | |
| 34 | 12121 | M | T | 4 | E | | CS | G | 2.8 | 7/10 8/10 | | |
| 35 | 12128 | P | T | _ | E | | CS | G | 2.1 | 6/10 8/10 | | |
| 36 | 12221 | M | T | 3 | Fl | | CS | B | 2.1 | 7/10 8/10 | | |
| 37 | 12311 | M | T | _ | E | | CS | B | 3.4 | 6/10 8/10 | | |
| 38 | 12347 | M | T | _ | E | | CS | B | 2.6 | 6/10 8/10 | | |
| 39 | 12248 | P | T | 1 | E | | Vag | B | 1.8 | 7/10 8/10 | | |
| 40 | 11398 | M | T | 1/2 | E | | Vag | G | 2.7 | 6/10 8/10 | | |
| 41 | 11296 | M | T | 4 | E | | CS | B | 2.6 | 6/10 8/10 | | |
| 42 | 11394 | P | T | 2 | Fl | | CS | G | 2.7 | 6/10 8/10 | | |
| 43 | 11940 | P | 32 | 5 | E | | Vag | B | 1.7 | 7/10 8/10 | | |
| 44 | 11811 | M | T | _ | E | Labour Induced | Vag | G | 2.8 | 6/10 8/10 | | Mesentric Cyst |
| 45 | 11842 | M | T | _ | E | | CS | G | 3.3 | 7/10 8/10 | | |
| 46 | 12034 | M | T | 1 | E | | Vag | G | 3.1 | 6/10 8/10 | | |
| 47 | 12168 | P | 35 | 3 | E | | Vag | B | 1.5 | 6/10 8/10 | | |
| 48 | 12145 | P | T | 3 | E | | Vag | B | 2.1 | 7/10 8/10 | | NNH |
| 49 | 12224 | M | T | _ | F | | CS | B | 2.8 | 6/10 8/10 | | |
| 50 | 12281 | P | T | 4 | E | Unicornuate Uterus | CS | G | 2.8 | 6/10 8/10 | | |
| 51 | 12255 | P | T | 2 | E | | CS | G | 2.6 | 7/10 8/10 | | |
| 52 | 12248 | M | T | _ | E | | CS | B | 3.3 | 6/10 8/10 | | |
| 53 | 12301 | P | T | 1/2 | E | | Vag | B | 3.2 | 6/10 8/10 | | |
| 54 | 12202 | P | T | _ | F | | CS | B | 1.8 | 7/10 8/10 | | |
| 55 | 11757 | M | 32 | _ | E | | Vag | B | 1.3 | 6/10 8/10 | | NICU>1 wk Preterm |
| 56 | 12227 | M | 31 | 2 | E | | Vag | G | 1.6 | 7/10 8/10 | | NICU>1 wk TTN |
| 57 | 11904 | P | T | _ | E | | CS | B | 1.7 | 6/10 8/10 | | |
| 58 | 12214 | M | T | _ | E | | CS | G | 2.4 | 6/10 8/10 | | |
| 59 | 12430 | M | T | _ | E | | CS | G | 2.4 | 7/10 8/10 | | |
| 60 | 12542 | P | T | 4 | E | | Vag | G | 2.2 | 6/10 8/10 | | |
| 61 | 12566 | P | T | 2 | E | | CS | B | 2.9 | 6/10 8/10 | | |
| 62 | 12629 | M | T | 2 | E | | Vag | B | 3.1 | 6/10 8/10 | | |
| 63 | 12126 | M | T | _ | E | | CS | G | 2.4 | 7/10 8/10 | | |
| 64 | 12764 | P | T | _ | E | | CS | B | 2.9 | 6/10 8/10 | | |
| 65 | 12178 | P | 36 | 3 | E | | Vag | G | 2.3 | 2/10 4/10 5/10 | | |
| 66 | 12858 | P | T | 2 | E | | Vag | B | 1.6 | 6/10 8/10 | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 67 | 12311 | M | T | 3 | E | | CS | B | 2.8 | 6/10 8/10 | | |
| 68 | 12695 | P | T | 2 | E | | CS | G | 2.8 | 7/10 8/10 | | |
| 69 | 12879 | P | T | 3 | E | | CS | G | 2.9 | 6/10 8/10 | | |
| 70 | 12910 | M | T | _ | E | | CS | B | 2.8 | 6/10 8/10 | | |
| 71 | 13072 | P | T | 2 | Fl | | CS | G | 2.7 | 7/10 8/10 | | |
| 72 | 13083 | M | T | 1 | E | | Vag | B | 1.9 | 6/10 8/10 | | |
| 73 | 13126 | M | T | _ | Fl | | CS | B | 2.8 | 6/10 8/10 | | |
| 74 | 13095 | P | T | 5 | Fl | | CS | G | 2.8 | 7/10 8/10 | | |
| 75 | 13129 | P | T | 5 | E | | CS | G | 2.6 | 6/10 8/10 | | |
| 76 | 13261 | M | T | _ | E | | CS | B | 2.8 | 7/10 8/10 | | |
| 77 | 13352 | M | T | _ | Fl | | CS | G | 2.6 | 6/10 8/10 | | |
| 78 | 13319 | P | T | _ | E | | Vag | G | 2.7 | 6/10 8/10 | | |
| 79 | 13565 | P | T | 3 | Fl | Arcuate Uterus | CS | B | 2.2 | 7/10 8/10 | | |
| 80 | 13497 | P | T | _ | E | | CS | G | 3.2 | 6/10 8/10 | | |
| 81 | 13682 | P | T | 2 | E | | CS | B | 2.75 | 6/10 8/10 | | |
| 82 | 13753 | P | T | _ | E | PIH | CS | B | 3.8 | 6/10 8/10 | | |
| 83 | 13836 | M | T | 3 | E | | CS | G | 3.1 | 7/10 8/10 | | |
| 84 | 13738 | P | T | _ | E | | CS | G | 3.3 | 6/10 8/10 | | |
| 85 | 13461 | P | T | _ | E | | CS | G | 2.7 | 7/10 8/10 | | |
| 86 | 13480 | M | T | 5 | Fl | | CS | B | 3.1 | 6/10 8/10 | | |
| 87 | 13519 | P | T | 4 | E | | CS | G | 2.6 | 6/10 8/10 | | |
| 88 | 14011 | P | T | 4 | E | | Vag | G | 2.7 | 7/10 8/10 | | |
| 89 | 13521 | P | T | 3 | Fl | | CS | G | 3.2 | 6/10 8/10 | | |
| 90 | 14112 | M | T | 2 | E | | CS | B | 2.9 | 6/10 8/10 | | |
| 91 | 14159 | M | T | 2 | E | | CS | G | 3.1 | 7/10 8/10 | | |
| 92 | 14148 | M | T | 5 | E | | Vag | B | 2.6 | 2/10 4/10 6/10 | | |
| 93 | 14181 | P | T | _ | E | | CS | B | 2.7 | 6/10 8/10 | | |
| 94 | 14183 | P | T | 4 | E | | CS | G | 2.6 | 7/10 8/10 | | |
| 95 | 14220 | P | T | _ | E | | CS | G | 2.8 | 6/10 8/10 | | |
| 96 | 14041 | P | T | 3 | E | | CS | B | 3.3 | 7/10 8/10 | | |
| 97 | 13825 | P | T | _ | E | | CS | G | 2.1 | 6/10 8/10 | | |
| 98 | 14236 | P | T | _ | E | | CS | G | 3.1 | 6/10 8/10 | | |
| 99 | 14143 | P | 33 | 1 | E | | Vag | G | 1.6 | _ | Still Birth | |
| 100 | 14396 | M | T | 1/2 | Fo | | Vag | B | 2.4 | 6/10 8/10 | | NNH |
| 101 | 14340 | M | 34 | 1 | E | | Vag | G | 1.4 | 6/10 8/10 | Preterm HMD | |
| 102 | 14303 | P | T | _ | E | PIH | CS | G | 3.5 | 6/10 8/10 | | |
| 103 | 14120 | P | T | _ | E | | CS | G | 2.9 | 7/10 8/10 | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 104 | 14618 | P | T | 2 | E | | CS | G | 3.1 | 6/10 8/10 | | |
| 105 | 14572 | P | T | _ | E | | CS | B | 2.7 | 7/10 8/10 | | |
| 106 | 14506 | M | T | 3 | Fo | | CS | B | 2.8 | 6/10 8/10 | | |
| 107 | 14734 | P | T | _ | Fo | Septate Uterus | CS | G | 3 | 6/10 8/10 | | |
| 108 | 14824 | P | T | 4 | E | Septate Uterus | CS | G | 3.3 | 7/10 8/10 | | |
| 109 | 14798 | P | T | 5 | E | | CS | B | 3.5 | 6/10 8/10 | | |
| 110 | 14846 | P | T | _ | E | | CS | B | 2.6 | 6/10 8/10 | | |
| 111 | 15019 | P | T | 3 | E | | CS | B | 3.2 | 7/10 8/10 | | |
| 112 | 15042 | M | T | _ | E | | CS | G | 3.2 | 6/10 8/10 | | |
| 113 | 14984 | M | T | _ | E | | CS | G | 2.7 | 6/10 8/10 | | |
| 114 | 15075 | M | T | 5 | E | | Vag | G | 3.1 | 7/10 8/10 | | |
| 115 | 15096 | P | T | _ | E | | CS | G | 2.9 | 6/10 8/10 | | |
| 116 | 15086 | M | T | 2 | E | | Vag | B | 2.5 | 7/10 8/10 | | |
| 117 | 14321 | P | T | 3 | E | | CS | G | 3.3 | 6/10 8/10 | | |
| 118 | 15332 | P | T | _ | E | | CS | B | 2.8 | 6/10 8/10 | | |
| 119 | 15291 | P | 36 | 2 | E | | Vag | G | 1.6 | 7/10 8/10 | | NICU>1 wk |
| 120 | 14961 | P | T | _ | E | | CS | B | 2.7 | 6/10 8/10 | | |
| 121 | 14322 | M | 34 | 5 | E | PPROM | Vag | G | 1.4 | 6/10 8/10 | Preterm HMD | |
| 122 | 15477 | M | 35 | 5 | E | | Vag | B | 1.7 | 6/10 8/10 | | |
| 123 | 15457 | P | T | _ | E | | CS | G | 2.6 | 7/10 8/10 | | |
| 124 | 15149 | M | T | _ | E | | CS | G | 2.8 | 6/10 8/10 | | |
| 125 | 15751 | P | T | 4 | E | | Vag | B | 2.8 | 7/10 8/10 | | |
| 126 | 15394 | M | 37 | _ | E | | CS | G | 2.9 | 6/10 8/10 | | |
| 127 | 15595 | M | T | 4 | E | | CS | G | 2.7 | 6/10 8/10 | | |
| 128 | 16091 | P | T | _ | Fl | | CS | B | 2.8 | 7/10 8/10 | | |
| 129 | 16141 | P | T | 2 | Fl | | CS | B | 2.8 | 6/10 8/10 | | |
| 130 | 15332 | M | T | _ | E | | CS | B | 3.5 | 6/10 8/10 | | |
| 131 | 15341 | P | T | 3 | E | | CS | G | 3.1 | 7/10 8/10 | | |
| 132 | 15352 | P | T | _ | E | | CS | B | 2.8 | 6/10 8/10 | | |
| 133 | 12381 | M | T | 3 | E | | CS | G | 2.8 | 6/10 8/10 | | |
| 134 | 12342 | P | 36 | 5 | E | | Vag | G | 1.4 | 7/10 8/10 | | NNH |
| 135 | 14320 | P | T | _ | Fl | | CS | B | 3.1 | 6/10 8/10 | | |
| 136 | 14341 | P | T | 1/2 | E | | Vag | G | 2.4 | 7/10 8/10 | | |
| 137 | 12421 | M | T | _ | E | | CS | G | 2.8 | 6/10 8/10 | | |
| 138 | 14252 | P | 36 | 2 | Fl | | CS | B | 2.3 | 6/10 8/10 | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 139 | 14254 | M | T | 1/2 | E | | Vag | G | 2.4 | 7/10 8/10 | | NICU>1 wk Preterm |
| 140 | 14311 | M | 33 | 4 | E | Oligo Hydraminos Induced | Vag | B | 1.7 | 6/10 8/10 | | |
| 141 | 12282 | P | T | 4 | E | | CS | B | 2.6 | 6/10 8/10 | | |
| 142 | 12183 | P | T | _ | E | | CS | G | 2.7 | 6/10 8/10 | | |
| 143 | 14212 | P | T | 1/2 | E | | Vag | G | 2.2 | 2/10 4/10 5/10 | | |
| 144 | 15311 | P | T | 3 | Fl | | CS | G | 3.7 | 6/10 8/10 | | |
| 145 | 14213 | P | T | 2 | E | | CS | B | 4.05 | 7/10 8/10 | | |
| 146 | 14114 | P | T | 3 | E | Fibroid | CS | B | 2.75 | 6/10 8/10 | | |
| 147 | 14321 | P | T | _ | E | | CS | B | 3.25 | 6/10 8/10 | | |
| 148 | 14216 | P | T | 5 | Fl | | CS | B | 2.7 | 7/10 8/10 | | |
| 149 | 14124 | P | T | 1/2 | E | | Vag | G | 2.25 | 6/10 8/10 | | |
| 150 | 14321 | P | T | 4 | E | | CS | B | 2.1 | 6/10 8/10 | | |
| 151 | 14215 | P | 36 | _ | E | | CS | B | 2.4 | 7/10 8/10 | | |
| 152 | 14613 | M | T | 1/2 | E | | Vag | G | 3.2 | 6/10 8/10 | | |
| 153 | 14719 | P | T | _ | E | | CS | B | 2.3 | 6/10 8/10 | | |
| 154 | 13728 | P | T | 1/2 | E | | Vag | G | 2.2 | 7/10 8/10 | | |
| 155 | 12437 | P | T | 4 | E | | CS | G | 3.1 | 6/10 8/10 | | |
| 156 | 13649 | M | 35 | 1/2 | E | | Vag | B | 2.3 | 7/10 8/10 | | |
| 157 | 14897 | M | T | 5 | E | | CS | G | 3.2 | 6/10 8/10 | | |
| 158 | 16012 | P | T | _ | Fl | | CS | B | 3.5 | 6/10 8/10 | | |
| 159 | 15643 | M | T | 1/2 | E | | Vag | G | 3.1 | 7/10 8/10 | | |
| 160 | 15964 | P | 35 | 3 | E | | CS | G | 2.6 | 6/10 8/10 | | |
| 161 | 15899 | P | T | _ | E | | CS | G | 2.7 | 6/10 8/10 | | |
| 162 | 15789 | P | T | _ | E | | CS | G | 2.9 | 6/10 8/10 | | |
| 163 | 15463 | P | T | 3 | E | | CS | B | 2.2 | 7/10 8/10 | | |
| 164 | 14621 | P | T | 4 | E | | CS | G | 2.7 | 6/10 8/10 | | |
| 165 | 14523 | M | 36 | _ | E | | CS | B | 3.1 | 7/10 8/10 | | |
| 166 | 14218 | P | T | _ | E | | CS | B | 2.8 | 6/10 8/10 | | |
| 167 | 15313 | P | T | 5 | E | | CS | B | 3.1 | 6/10 8/10 | | |
| 168 | 14653 | P | T | _ | E | Oligo Hydraminos | CS | B | 2.6 | 7/10 8/10 | | |
| 169 | 14623 | M | T | _ | E | | CS | B | 1.9 | 6/10 8/10 | | |
| 170 | 14679 | P | 36 | 2 | E | | CS | B | 2.1 | 6/10 8/10 | | |
| 171 | 14365 | M | T | 3 | E | | Vag | G | 2.4 | 7/10 8/10 | | |
| 172 | 12952 | M | T | _ | Fl | | CS | B | 3.3 | 6/10 8/10 | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 173 | 12593 | P | T | 1 | E | | CS | B | 2.3 | 6/10 8/10 | | |
| 174 | 14241 | P | T | _ | E | | CS | B | 3.4 | 7/10 8/10 | | |
| 175 | 13687 | P | T | 3 | E | | CS | G | 2.2 | 6/10 8/10 | | |
| 176 | 13624 | M | T | _ | E | | CS | B | 2.3 | 7/10 8/10 | | |
| 177 | 13426 | M | T | 2 | Fl | Fibroid | Vag | B | 3.5 | 6/10 8/10 | | |
| 178 | 13952 | P | T | 4 | Fl | | CS | B | 1.8 | 6/10 8/10 | | |
| 179 | 12643 | M | T | _ | E | | CS | B | 2.4 | 7/10 8/10 | | |
| 180 | 13659 | P | T | _ | E | | CS | B | 3.1 | 6/10 8/10 | | |
| 181 | 13546 | P | T | 3 | Fl | | CS | G | 3.1 | 6/10 8/10 | | |
| 182 | 13549 | M | T | _ | E | Septate Uterus | CS | G | 3.1 | 6/10 8/10 | | |
| 183 | 13536 | M | T | 2 | E | | CS | B | 4 | 7/10 8/10 | | |
| 184 | 13559 | P | 36 | 4 | E | | Vag | G | 2.2 | 6/10 8/10 | | |
| 185 | 13563 | P | T | 1/2 | E | | Vag | B | 2.1 | 7/10 8/10 | | |
| 186 | 13472 | M | T | 5 | Fl | | Vag | G | 2.2 | 6/10 8/10 | | |
| 187 | 13463 | M | T | 3 | Fl | | CS | G | 2.4 | 6/10 8/10 | | |
| 188 | 13471 | M | T | _ | E | Recurrent Breech | CS | G | 2.6 | 7/10 8/10 | | |
| 189 | 13458 | P | 35 | _ | E | | CS | B | 2.2 | 6/10 8/10 | | |
| 190 | 13469 | P | T | _ | E | Oligo Hydraminos | CS | G | 2.7 | 6/10 8/10 | | |
| 191 | 13431 | P | T | 5 | E | | Vag | B | 2.2 | 7/10 8/10 | | |
| 192 | 13428 | P | T | _ | Fo | | CS | B | 2.3 | 6/10 8/10 | | |
| 193 | 13492 | P | T | 4 | E | | CS | G | 3.7 | 6/10 8/10 | | |
| 194 | 13402 | M | T | 4 | E | | CS | G | 3.2 | 7/10 8/10 | | |
| 195 | 13404 | P | T | 1 | E | Abruption Grade 1 | CS | G | 2.6 | 6/10 8/10 | | |
| 196 | 13444 | P | 33 | _ | E | | Vag | B | 1.5 | 7/10 8/10 | Preterm HMD | |
| 197 | 13436 | P | T | 4 | E | | CS | G | 2.8 | 6/10 8/10 | | |
| 198 | 13427 | P | T | 3 | E | | CS | G | 2.6 | 6/10 8/10 | | |
| 199 | 13416 | M | T | 2 | E | | CS | B | 3.1 | 7/10 8/10 | | |
| 200 | 13425 | M | T | 2 | E | | CS | G | 2.7 | 6/10 8/10 | | |
| 201 | 13651 | M | T | _ | E | | CS | G | 2.9 | 6/10 8/10 | | |
| 202 | 13662 | P | T | 4 | E | | CS | G | 2.8 | 6/10 8/10 | | |
| 203 | 13644 | M | 33 | 3 | E | | Vag | B | 1.9 | 7/10 8/10 | | NICU>1 wk Preterm |
| 204 | 13652 | M | T | 4 | E | | CS | B | 3.2 | 6/10 8/10 | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 205 | 13602 | M | T | _ | E | Arcuate Uterus | CS | G | 2.8 | 7/10 8/10 | | |
| 206 | 13642 | M | T | 2 | E | | Vag | B | 2.7 | 6/10 8/10 | | |
| 207 | 13638 | M | 36 | 1/2 | Fo | Cord Prolapse | CS | B | 1.7 | 6/10 8/10 | | |
| 208 | 13678 | M | T | _ | E | Oligo Hydraminos | CS | G | 2.4 | 7/10 8/10 | | |
| 209 | 13692 | M | T | 4 | E | | Vag | G | 2.5 | 6/10 8/10 | | |
| 210 | 13605 | M | T | 4 | E | | Vag | G | 1.9 | 6/10 8/10 | | |
| 211 | 13600 | M | T | 1 | E | | Vag | G | 2.1 | 7/10 8/10 | HIE Stage 3 | |
| 212 | 13610 | P | T | _ | E | | CS | G | 2.8 | 6/10 8/10 | | |
| 213 | 13931 | M | T | 2 | E | | CS | G | 2.6 | 6/10 8/10 | | |
| 214 | 13942 | M | T | 4 | E | | Vag | B | 2.4 | 7/10 8/10 | | IUGR HIE Stage 2 |
| 215 | 13901 | P | T | _ | E | | CS | G | 2.5 | 6/10 8/10 | | |
| 216 | 13804 | P | T | _ | E | | CS | B | 3.4 | 7/10 8/10 | | |
| 217 | 13812 | P | 35 | 2 | Fl | | CS | G | 2.4 | 6/10 8/10 | | |
| 218 | 13826 | P | T | _ | E | | CS | B | 2.2 | 6/10 8/10 | | |
| 219 | 13747 | P | T | _ | Fl | | CS | G | 2.7 | 7/10 8/10 | | |
| 220 | 13735 | P | 34 | _ | E | Oligo Hydraminos | CS | B | 1.5 | 6/10 8/10 | | |
| 221 | 13728 | P | T | _ | E | | CS | G | 2.7 | 6/10 8/10 | | |
| 222 | 13792 | M | T | _ | E | | CS | G | 2.8 | 6/10 8/10 | | |
| 223 | 13647 | M | T | 3 | E | | Vag | G | 2.2 | 7/10 8/10 | | |
| 224 | 14146 | P | T | _ | E | | CS | B | 3 | 6/10 8/10 | | |
| 225 | 14150 | M | T | _ | Fo | | CS | G | 2.4 | 7/10 8/10 | | |
| 226 | 14192 | M | T | 3 | E | | CS | B | 3.4 | 6/10 8/10 | | |
| 227 | 14104 | P | T | 4 | E | | Vag | G | 2.3 | _ | Still Birth | |
| 228 | 14136 | M | T | _ | E | | CS | B | 3.1 | 7/10 8/10 | | |
| 229 | 14157 | M | T | _ | E | | CS | G | 2.4 | 6/10 8/10 | | |
| 230 | 14188 | M | T | 3 | E | | CS | B | 3.4 | 6/10 8/10 | | |
| 231 | 14342 | M | 36 | _ | E | | CS | B | 2.3 | 7/10 8/10 | | |
| 232 | 14358 | M | T | 5 | E | | CS | B | 3.2 | 6/10 8/10 | | |
| 233 | 14304 | P | T | 3 | E | | CS | G | 2.9 | 6/10 8/10 | | |
| 234 | 14347 | M | 36 | 4 | E | | CS | G | 2.7 | 7/10 8/10 | | |
| 235 | 14221 | M | T | _ | Fl | | CS | B | 3.1 | 6/10 8/10 | | |
| 236 | 14238 | M | T | 5 | E | | CS | B | 3.9 | 7/10 8/10 | | |
| 237 | 14248 | P | T | _ | E | | CS | G | 3.1 | 6/10 8/10 | | |
| 238 | 14204 | P | T | 3 | E | | CS | B | 2.2 | 6/10 8/10 | | |

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| 239 | 14447 | P | T | _ | E | | CS | G | 1.9 | 7/10 8/10 | | NNH |
| 240 | 14458 | M | T | _ | Fl | | CS | B | 3.1 | 6/10 8/10 | | |
| 241 | 14488 | M | T | _ | E | | CS | G | 2.7 | 6/10 8/10 | | |
| 242 | 14492 | P | T | 4 | E | Post Dated Oligo Hydraminios | CS | B | 2.1 | 1/10 1/10 4/10 | MSAF | |
| 243 | 14501 | P | T | _ | E | | CS | G | 2.2 | 7/10 8/10 | | |
| 244 | 14598 | M | 36 | _ | E | | CS | G | 3.5 | 6/10 8/10 | | |
| 245 | 14457 | P | T | 4 | Fl | Recurrent Breech | CS | G | 2.4 | 7/10 8/10 | | |
| 246 | 14436 | P | 36 | _ | E | | CS | G | 2.8 | 6/10 8/10 | | |
| 247 | 14477 | P | T | _ | E | | CS | G | 3 | 6/10 8/10 | | |
| 248 | 2778 | M | T | 3 | E | | CS | B | 2.7 | 7/10 8/10 | | |
| 249 | 2788 | M | T | _ | E | | CS | G | 3.2 | 6/10 8/10 | | |
| 250 | 2881 | P | T | 4 | E | | Vag | B | 2.3 | 6/10 8/10 | | |
| 251 | 2923 | M | 35 | 5 | Fo | | Vag | B | 2.4 | 7/10 8/10 | | NNH |
| 252 | 2310 | P | T | _ | E | | CS | G | 2.7 | 6/10 8/10 | | |
| 253 | 2943 | M | T | 3 | E | | Vag | G | 2.9 | 6/10 8/10 | | |
| 254 | 2823 | P | 36 | 4 | Fo | | CS | B | 3.2 | 7/10 8/10 | | |
| 255 | 3046 | P | T | _ | E | | CS | G | 2.6 | 6/10 8/10 | | |
| 256 | 2743 | M | T | 4 | E | | CS | G | 3.5 | 7/10 8/10 | | |
| 257 | 2876 | P | T | _ | E | Arcuate Uterus | CS | G | 2.4 | 6/10 8/10 | | |
| 258 | 3150 | M | 34 | 1 | E | | Vag | B | 1.6 | 6/10 8/10 | | NICU>1 wk |
| 259 | 3103 | M | 36 | _ | E | | CS | G | 2.5 | 7/10 8/10 | | |
| 260 | 3215 | M | T | 2 | E | | Vag | G | 3.3 | 6/10 8/10 | | |
| 261 | 3288 | P | T | _ | Fl | | CS | B | 3.45 | 6/10 8/10 | | |
| 262 | 3272 | P | 31 | _ | E | IUGR | Vag | B | 1.3 | _ | Still Birth | |
| 263 | 3297 | M | T | 3 | E | | Vag | G | 2.5 | 7/10 8/10 | | |
| 264 | 3355 | M | T | 4 | E | | Vag | G | 2.7 | 6/10 8/10 | | |
| 265 | 3234 | M | T | _ | E | | CS | G | 2.9 | 7/10 8/10 | | |
| 266 | 3322 | P | T | _ | E | | CS | G | 3.1 | 6/10 8/10 | | |
| 267 | 3439 | P | T | 4 | Fl | Arcuate Uterus | CS | G | 1.9 | 6/10 8/10 | | |
| 268 | 3458 | P | 34 | 3 | E | | Vag | B | 1.8 | 7/10 8/10 | | NICU>1 wk |
| 269 | 3534 | P | 36 | _ | E | | CS | G | 2.1 | 6/10 8/10 | | |

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| 270 | 3569 | P | 31 | 4 | E | | Vag | B | 1.25 | 6/10 8/10 | Preterm HMD | |
| 271 | 3245 | M | T | _ | E | | CS | B | 2.7 | 7/10 8/10 | | |
| 272 | 3515 | P | T | _ | E | | CS | G | 2.6 | 6/10 8/10 | | |
| 273 | 3763 | P | T | _ | E | Infertility | CS | B | 3.1 | 6/10 8/10 | | |
| 274 | 3766 | M | T | 5 | E | | Vag | G | 2.6 | 7/10 8/10 | | |
| 275 | 3755 | P | T | _ | E | | CS | G | 2.8 | 6/10 8/10 | | |
| 276 | 4132 | M | 34 | 2 | E | | Vag | G | 2.1 | 7/10 8/10 | | |
| 277 | 4253 | P | T | _ | Fl | | CS | G | 3.1 | 6/10 8/10 | | |
| 278 | 4179 | M | T | 3 | E | | Vag | B | 2.4 | 6/10 8/10 | Term HIE Stage 3 | |
| 279 | 4256 | M | T | _ | E | | CS | B | 3.3 | 7/10 8/10 | | |
| 280 | 4161 | M | T | _ | E | | CS | B | 2.3 | 6/10 8/10 | | |
| 281 | 4918 | P | 30 | 2 | E | | Vag | G | 1.4 | 4/10 6/10 | Preterm HMD | |
| 282 | 4388 | M | 36 | 3 | E | | CS | G | 2.4 | 6/10 8/10 | | |
| 283 | 2614 | M | T | _ | E | | CS | G | 3.7 | 7/10 8/10 | | |
| 284 | 4444 | M | T | 4 | E | | CS | B | 2.9 | 6/10 8/10 | | |
| 285 | 4508 | M | 32 | 3 | E | | Vag | B | 1.4 | 7/10 8/10 | | NNH |
| 286 | 4997 | M | T | 5 | E | Abruption Grade 1 | CS | G | 2.1 | 6/10 8/10 | | |
| 287 | 4523 | P | T | 1/2 | E | | Vag | G | 2.6 | 6/10 8/10 | | |
| 288 | 3810 | M | T | 4 | Fl | | CS | B | 2.4 | 7/10 8/10 | | |
| 289 | 4649 | M | T | _ | Fl | | CS | G | 3 | 6/10 8/10 | | |
| 290 | 4562 | P | 34 | 3 | E | IUGR | Vag | G | 1.8 | 6/10 8/10 | | |
| 291 | 3465 | P | T | _ | E | | CS | G | 3.1 | 7/10 8/10 | | |
| 292 | 4720 | M | 34 | 5 | E | | Vag | B | 1.3 | 6/10 8/10 | | NICU>1 wk |
| 293 | 4729 | M | 36 | 3 | E | | Vag | G | 2.5 | 6/10 8/10 | | |
| 294 | 4621 | P | T | _ | E | | CS | B | 3.3 | 7/10 8/10 | | |
| 295 | 4851 | P | T | _ | E | | CS | B | 3.2 | 6/10 8/10 | | |
| 296 | 3214 | M | T | 4 | E | IUGR | Vag | G | 2.6 | 3/10 4/10 4/10 | | |
| 297 | 5208 | P | T | 5 | E | | CS | B | 3.1 | 6/10 8/10 | | |
| 298 | 1521 | P | T | 5 | E | | CS | G | 2.6 | 6/10 8/10 | | |
| 299 | 5407 | M | T | _ | Fl | | CS | G | 2.9 | 7/10 8/10 | | |
| 300 | 4714 | P | T | _ | E | | CS | B | 3.5 | 6/10 8/10 | | |
| 301 | 5533 | M | T | 3 | E | | Vag | B | 2.6 | 6/10 8/10 | | |
| 302 | 5158 | P | T | _ | Fl | | CS | G | 2.4 | 6/10 8/10 | | |
| 303 | 5598 | P | T | 4 | E | | CS | B | 3.1 | 7/10 8/10 | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 304 | 5642 | P | T | _ | E | | CS | B | 3.1 | 6/10 8/10 | | |
| 305 | 5662 | P | T | _ | Fl | | CS | B | 2.6 | 7/10 8/10 | | |
| 306 | 5450 | M | T | 3 | E | | CS | G | 3 | 6/10 8/10 | | |
| 307 | 5591 | P | T | _ | E | | CS | G | 1.9 | 6/10 8/10 | | |
| 308 | 5407 | M | T | 5 | E | | Vag | B | 2.6 | 7/10 8/10 | | |
| 309 | 5680 | P | T | _ | E | | CS | B | 3.1 | 6/10 8/10 | | |
| 310 | 3010 | M | 36 | 3 | E | | Vag | G | 1.4 | 6/10 8/10 | | |
| 311 | 6108 | P | 34 | _ | E | | Vag | B | 1.9 | 7/10 8/10 | | NICU>1 wk |
| 312 | 6067 | M | T | _ | E | | CS | G | 2.8 | 6/10 8/10 | | |
| 313 | 6148 | P | T | _ | E | | CS | G | 2.6 | 6/10 8/10 | | |
| 314 | 3067 | M | T | 4 | E | Recurrent Breech | CS | G | 2.6 | 7/10 8/10 | | |
| 315 | 5922 | P | T | _ | E | | CS | G | 2.7 | 6/10 8/10 | | |
| 316 | 6660 | P | T | 3 | E | | Vag | G | 2.1 | 7/10 8/10 | | |
| 317 | 6005 | M | T | _ | Fl | | CS | B | 3.3 | 6/10 8/10 | | |
| 318 | 6609 | P | T | _ | E | | CS | B | 3.4 | 6/10 8/10 | | |
| 319 | 6641 | P | T | _ | E | | CS | G | 3.3 | 7/10 8/10 | | |
| 320 | 6839 | M | T | 2 | E | | CS | B | 4.2 | 6/10 8/10 | | |
| 321 | 6888 | P | T | _ | E | | CS | B | 3.4 | 6/10 8/10 | | |
| 322 | 6709 | P | T | 2 | E | | CS | G | 2.9 | 6/10 8/10 | | |
| 323 | 6968 | M | T | _ | Fl | | CS | B | 2.7 | 7/10 8/10 | | |
| 324 | 7138 | P | T | _ | E | Oligo Hydramnios | CS | G | 2.1 | 6/10 8/10 | | |
| 325 | 7194 | P | T | _ | E | | CS | G | 2.8 | 7/10 8/10 | | |
| 326 | 7214 | P | T | _ | E | | CS | B | 3.5 | 6/10 8/10 | | |
| 327 | 7241 | P | T | 2 | Fl | | CS | G | 2.6 | 6/10 8/10 | | |
| 328 | 7318 | M | T | _ | E | | CS | B | 3.8 | 7/10 8/10 | | |
| 329 | 7375 | M | T | 4 | E | | Vag | G | 2.6 | 6/10 8/10 | | |
| 330 | 7326 | P | T | 3 | E | | CS | B | 2.7 | 6/10 8/10 | | |
| 331 | 6558 | P | 36 | _ | E | | CS | G | 1.9 | 7/10 8/10 | | |
| 332 | 7037 | M | T | _ | E | | CS | B | 3.2 | 6/10 8/10 | | |
| 333 | 7501 | P | T | _ | E | | CS | G | 3.7 | 6/10 8/10 | | |
| 334 | 7536 | P | 34 | 3 | E | | Vag | B | 1.7 | 7/10 8/10 | | |
| 335 | 7554 | M | T | 4 | E | | Vag | G | 2.2 | 6/10 8/10 | | |
| 336 | 7404 | P | T | _ | Fl | | CS | G | 2.7 | 7/10 8/10 | | |
| 337 | 7071 | M | T | _ | Fl | | CS | G | 2.9 | 6/10 8/10 | | |
| 338 | 6950 | M | T | _ | E | | CS | B | 2.9 | 6/10 8/10 | | |
| 339 | 19315 | M | T | 3 | Fl | | CS | G | 3.7 | 7/10 8/10 | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 340 | 19279 | P | T | 4 | E | | CS | G | 2.7 | 6/10 8/10 | | |
| 341 | 19364 | M | T | _ | E | | CS | B | 3.5 | 6/10 8/10 | | |
| 342 | 19492 | P | T | _ | E | | CS | B | 2.4 | 6/10 8/10 | | |
| 343 | 19602 | M | T | 3 | E | | Vag | B | 3.1 | 7/10 8/10 | | |
| 344 | 19578 | P | 34 | _ | E | IUGR | Vag | B | 1.4 | 6/10 8/10 | | NICU>1 wk IUGR |
| 345 | 19659 | P | T | _ | E | | CS | G | 2.1 | 7/10 8/10 | | |
| 346 | 19631 | P | T | _ | E | | CS | G | 3.4 | 6/10 8/10 | | |
| 347 | 19478 | P | T | 4 | E | | CS | G | 2.7 | 6/10 8/10 | | |
| 348 | 19743 | M | T | 4 | Fo | | Vag | G | 2.5 | 7/10 8/10 | | |
| 349 | 19322 | P | T | _ | E | | CS | G | 3.7 | 6/10 8/10 | | |
| 350 | 19799 | M | 29 | 4 | E | | Vag | G | 1.2 | _ | Still Birth | |
| 351 | 19801 | M | 30 | 5 | E | Placenta Previa | Vag | B | 1.2 | 4/10 5/10 | Preterm HMD VLBW | |
| 352 | 19881 | P | T | _ | E | | CS | G | 2.7 | 6/10 8/10 | | |
| 353 | 19643 | M | T | _ | E | Unicornuate Uterus Recurrence | CS | B | 2.7 | 6/10 8/10 | | |
| 354 | 19558 | M | T | _ | E | | CS | B | 3.1 | 7/10 8/10 | | |
| 355 | 20234 | M | T | _ | E | | CS | G | 2.2 | 6/10 8/10 | | |
| 356 | 20437 | M | T | _ | E | | CS | G | 2.9 | 7/10 8/10 | | |
| 357 | 20492 | P | T | _ | E | | CS | G | 2.8 | 6/10 8/10 | | |
| 358 | 20586 | P | T | _ | Fl | | CS | B | 2.9 | 6/10 8/10 | | |
| 359 | 20620 | M | T | _ | E | | CS | B | 2.6 | 7/10 8/10 | | |
| 360 | 19973 | M | T | _ | E | Unicornuate Uterus Recurrence | CS | B | 2.1 | 6/10 8/10 | | |
| 361 | 20707 | P | 33 | _ | E | | Vag | B | 1.3 | 6/10 8/10 | Preterm HMD | |
| 362 | 20752 | P | T | _ | Fo | | CS | G | 2.6 | 6/10 8/10 | | |
| 363 | 20307 | M | T | _ | E | | CS | G | 3.1 | 7/10 8/10 | | |
| 364 | 20746 | P | 35 | 4 | E | PPROM | Vag | B | 1.4 | 6/10 8/10 | | NNH |
| 365 | 20795 | P | T | _ | E | Arcuate Uterus | CS | G | 2.6 | 7/10 8/10 | | |
| 366 | 18657 | M | T | _ | E | | CS | G | 3.6 | 6/10 8/10 | | |
| 367 | 18476 | M | T | _ | E | Recurrent Breech | CS | B | 2.5 | 6/10 8/10 | | |
| 368 | 18812 | P | T | 5 | E | | CS | G | 2.5 | 7/10 8/10 | | |

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| 369 | 20795 | P | T | _ | E | Arcuate Uterus | CS | G | 2.4 | 6/10 8/10 | | |
| 370 | 21128 | M | T | 5 | E | | Vag | G | 3.1 | 6/10 8/10 | | |
| 371 | 21113 | P | 34 | 4 | E | PIH | Vag | G | 1.9 | 7/10 8/10 | | |
| 372 | 21644 | M | 30 | _ | E | | Vag | B | 1.3 | 3/10 6/10 | Preterm | |
| 373 | 20703 | P | T | _ | E | | CS | G | 3.2 | 6/10 8/10 | | |
| 374 | 20571 | P | T | _ | Fl | | CS | G | 2.9 | 7/10 8/10 | | |
| 375 | 21139 | P | T | _ | E | Septate Uterus | CS | B | 3.1 | 6/10 8/10 | | |
| 376 | 21133 | P | T | _ | E | Septate Uterus | CS | G | 3.3 | 7/10 8/10 | | |
| 377 | 18733 | M | T | 1/2 | Knee | Cord Prolapse | CS | B | 2.8 | 6/10 8/10 | | |
| 378 | 21055 | M | T | 5 | E | | Vag | G | 2.9 | 3/10 5/10 6/10 | | |
| 379 | 20867 | P | T | _ | E | | CS | G | 3.1 | 7/10 8/10 | | |
| 380 | 21023 | M | 34 | 2 | E | | Vag | B | 1.8 | 6/10 8/10 | | |
| 381 | 21437 | M | 36 | _ | Fl | | Vag | G | 1.9 | 6/10 8/10 | | |
| 382 | 20862 | P | 33 | 3 | E | PIH Induced | Vag | B | 1.3 | _ | Still Birth | |
| 383 | 20104 | P | T | _ | E | | CS | B | 3.4 | 7/10 8/10 | | |
| 384 | 20690 | P | T | 4 | E | | CS | B | 2.7 | 6/10 8/10 | | |
| 385 | 20674 | M | 34 | 4 | E | | VBAC | G | 1.5 | 7/10 8/10 | | NNH |
| 386 | 20803 | M | T | _ | E | | Vag | G | 2.7 | 6/10 8/10 | | |
| 387 | 20804 | M | T | _ | E | Recurrent Breech | CS | G | 3.2 | 6/10 8/10 | | |
| 388 | 22151 | M | T | _ | E | | CS | B | 2.3 | 7/10 8/10 | | |
| 389 | 21566 | M | T | _ | Fo | Unicornuate Uterus | CS | B | 2.7 | 6/10 8/10 | | |
| 390 | 23354 | M | 32 | _ | E | | Vag | B | 1.4 | _ | Still Birth | |
| 391 | 23351 | P | T | _ | E | Bicornuate Uterus | CS | B | 2.7 | 7/10 8/10 | | |
| 392 | 23521 | M | T | 3 | E | | Vag | B | 1.4 | 6/10 8/10 | | NICU>1 wk |
| 393 | 23511 | P | T | 5 | Fo | | CS | B | 3.5 | 6/10 8/10 | | |
| 394 | 23414 | P | T | _ | E | | CS | G | 2.7 | 7/10 8/10 | | |
| 395 | 23812 | M | T | 3 | E | Septate Uterus | CS | G | 3 | 6/10 8/10 | | |
| 396 | 23841 | M | T | _ | E | | CS | G | 3.3 | 7/10 8/10 | | |
| 397 | 23641 | P | T | _ | Fl | | CS | G | 2.6 | 6/10 8/10 | | |
| 398 | 23622 | P | T | _ | E | | CS | G | 2.8 | 6/10 8/10 | | |
| 399 | 23986 | M | T | _ | E | | CS | B | 3.1 | 7/10 8/10 | | |

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| 400 | 23499 | P | T | _ | E | | CS | B | 2.2 | 7/10 8/10 | | |
| 401 | 23627 | P | T | _ | E | | CS | G | 3.2 | 6/10 8/10 | | |
| 402 | 24048 | P | T | _ | Fl | | CS | G | 2.6 | 6/10 8/10 | | |
| 403 | 22980 | M | T | _ | E | | CS | G | 2.7 | 7/10 8/10 | | |
| 404 | 23268 | M | T | _ | Fl | Bicornuate Uterus | CS | B | 2.5 | 6/10 8/10 | | |
| 405 | 23725 | P | T | _ | E | | CS | G | 3.5 | 6/10 8/10 | | |
| 406 | 22001 | M | T | _ | E | Recurrent Breech | CS | G | 2.5 | 6/10 8/10 | | |
| 407 | 22633 | P | T | _ | E | | CS | B | 2.4 | 7/10 8/10 | | |
| 408 | 22044 | P | 33 | _ | E | PIH | Vag | B | 1.3 | _ | Still Birth | |
| 409 | 22910 | P | T | 4 | E | | CS | G | 2.6 | 7/10 8/10 | | |
| 410 | 24407 | P | T | _ | E | | CS | B | 3.1 | 6/10 8/10 | | |
| 411 | 24323 | M | 35 | _ | E | | Vag | G | 1.4 | 6/10 8/10 | | |
| 412 | 24800 | P | T | _ | E | | CS | G | 3.3 | 7/10 8/10 | | |
| 413 | 24592 | P | T | _ | Fl | | CS | G | 2.3 | 6/10 8/10 | | |
| 414 | 24295 | M | T | 4 | E | | CS | G | 3.1 | 6/10 8/10 | | |
| 415 | 21895 | M | T | _ | E | | CS | B | 3.2 | 7/10 8/10 | | |
| 416 | 21731 | P | T | _ | E | Infertility | CS | B | 3.1 | 6/10 8/10 | | |
| 417 | 21740 | P | T | _ | E | | CS | B | 2.2 | 6/10 8/10 | | |
| 418 | 22094 | P | T | _ | E | | CS | G | 2.2 | 7/10 8/10 | | |
| 419 | 22969 | M | T | _ | E | | CS | B | 2.6 | 6/10 8/10 | | |
| 420 | 24296 | P | 35 | _ | E | Fibroid | CS | G | 2.1 | 7/10 8/10 | | |
| 421 | 24142 | P | T | 2 | Fl | | CS | G | 3.3 | 6/10 8/10 | | |
| 422 | 22060 | M | T | _ | E | | CS | G | 2.6 | 6/10 8/10 | | |
| 423 | 21642 | P | T | _ | E | | CS | G | 3.3 | 7/10 8/10 | | |
| 424 | 22161 | M | T | _ | Fl | Placenta Previa | CS | G | 2.1 | 7/10 8/10 | | |
| 425 | 26164 | M | T | _ | E | Recurrent Breech Septate Uterus | CS | B | 3.2 | 6/10 8/10 | | |
| 426 | 23142 | M | 36 | 3 | E | | Vag | G | 2.1 | 6/10 8/10 | | |
| 427 | 24006 | P | T | _ | E | | CS | B | 3.2 | 7/10 8/10 | | |
| 428 | 24439 | P | 36 | 2 | Fl | | CS | B | 2 | 6/10 8/10 | | |
| 429 | 24935 | M | T | _ | E | | CS | B | 3.1 | 6/10 8/10 | | |
| 430 | 24625 | P | T | _ | E | | CS | B | 3.1 | 6/10 8/10 | | |
| 431 | 29707 | P | T | _ | E | | CS | B | 3 | 7/10 8/10 | | |
| 432 | 26370 | P | T | 4 | E | | Vag | G | 2.3 | 6/10 8/10 | | |

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| 433 | 25487 | P | T | _ | E | | CS | G | 2.4 | 7/10 8/10 | | |
| 434 | 24829 | P | T | _ | E | | CS | G | 3.6 | 6/10 8/10 | | |
| 435 | 25649 | P | T | 3 | F | | CS | B | 2.3 | 6/10 8/10 | | |
| 436 | 24634 | P | T | _ | E | | CS | B | 1.9 | 7/10 8/10 | | |
| 437 | 21081 | M | T | 3 | E | | Vag | G | 3.2 | 6/10 8/10 | | |
| 438 | 25501 | P | 32 | _ | E | PPROM | Vag | B | 1.4 | 6/10 8/10 | PPROM Sepsis | |
| 439 | 25964 | M | T | _ | Fl | Unicornuate Uterus | CS | B | 3.1 | 7/10 8/10 | | |
| 440 | 12527 | P | 36 | 5 | E | | Vag | B | 2.2 | 6/10 8/10 | | NICU>1 wk |
| 441 | 26142 | M | T | 3 | E | IUGR | Vag | G | 1.9 | 6/10 8/10 | | |
| 442 | 27603 | P | T | 1/2 | E | | Vag | G | 2.4 | _ | Still Birth | |
| 443 | 13404 | P | T | _ | E | | CS | G | 2.3 | 6/10 8/10 | | |
| 444 | 27732 | P | T | _ | E | | CS | B | 2.6 | 7/10 8/10 | | |
| 445 | 27911 | M | T | 3 | E | | CS | G | 2.1 | 6/10 8/10 | | |
| 446 | 24482 | M | T | _ | E | | CS | G | 3.7 | 6/10 8/10 | | |
| 447 | 28116 | M | T | _ | Fl | | CS | B | 2.1 | 7/10 8/10 | | |
| 448 | 28200 | P | T | _ | E | | CS | G | 3.1 | 7/10 8/10 | | |
| 449 | 28277 | M | 36 | _ | Fl | | CS | G | 2.3 | 6/10 8/10 | | |
| 450 | 27364 | P | T | 3 | E | | CS | B | 2.2 | 6/10 8/10 | | |
| 451 | 28351 | M | 36 | _ | E | Bicornuate Uterus | CS | G | 2.6 | 7/10 8/10 | | |
| 452 | 27996 | M | T | _ | Fl | Recurrent Breach | CS | G | 3.6 | 6/10 8/10 | | |
| 453 | 28415 | P | T | _ | Fl | | CS | G | 3.1 | 6/10 8/10 | | |
| 454 | 28481 | P | T | 1/2 | E | | Vag | B | 3.1 | 6/10 8/10 | | |
| 455 | 28473 | P | T | _ | E | | CS | G | 3.1 | 7/10 8/10 | | |
| 456 | 28319 | M | T | _ | Fl | | CS | G | 3.7 | 6/10 8/10 | | |
| 457 | 27888 | P | T | 3 | Fl | | CS | B | 3.2 | 7/10 8/10 | | |
| 458 | 28506 | P | 36 | _ | E | | CS | B | 2.4 | 6/10 8/10 | | |
| 459 | 28480 | M | 33 | 4 | E | Abruption Grade 2 | Vag | B | 1.5 | 2/10 4/10 6/10 | Abruption Respiratory Failure | |
| 460 | 21613 | P | T | _ | E | Fibroid Uterus Myomectomy done | CS | B | 1.6 | 7/10 8/10 | | |